



ata MANUAL

COMPONENT MAINTENANCE
MANUAL WITH IPL

STATIONARY CYLINDER ASSEMBLY 801307 SERIES

H-157

SCOTT®

35-21-57

T-1
Apr 30/85

SCOTT AVIATION • A FIGGIE INTERNATIONAL COMPANY
Lancaster, New York 14086
PRINTED IN U.S.A.

5000

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

RECORD OF REVISIONS

REV NO.	ISSUE DATE	DATE INSERTED	BY
1	Feb 15/72		
2	Jan 30/76		
3	Apr 1/82		
4	Apr 30/85		

35-21-57

RR-1
Apr 30/85

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

RECORD OF TEMPORARY REVISIONS

TEMPORARY REV. NO.	PAGE NUMBER	ISSUE DATE	BY	DATE REMOVED	BY

35-21-57

TR-1

Apr 1/82

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL
SERVICE BULLETIN LIST**

NUMBER	REV	DATE INCORP	BY	NUMBER	REV	DATE INCORP	BY

35-21-57

SB-1

Apr 1/82



801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

LIST OF EFFECTIVE PAGES

Insert latest revised pages, destroy superseded pages.

*The asterisk indicates pages revised or added by the current revision.

<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>
Title	*T-1	Apr 30/85
Record of Revisions	*RR-1	Apr 30/85
Record of Temporary Revisions	TR-1	Apr 1/82
Service Bulletin List	SB-1	Apr 1/82
List of Effective Pages	*LEP-1	Apr 30/85
	*LEP-2	Apr 30/85
Table of Contents	T/C-1	Apr 1/82
Introduction	INTRO-1	Apr 1/82
	*INTRO-2	Apr 30/85
Description and Operation	1	Apr 1/82
	2	Apr 1/82
	*3	Apr 30/85
	*4	Apr 1/82
	5	Apr 1/82
	6	Blank
Testing and Fault Isolation	*101	Apr 30/85
	*102	Apr 30/85
	*103	Apr 30/85
	*104	Apr 30/85
	*105	Apr 30/85
	*106	Apr 30/85
	*107	Apr 30/85
	*108	Blank
Disassembly	*301	Apr 30/85
	*302	Apr 30/85
	303	Apr 1/82
	304	Apr 1/82
Cleaning	*401	Apr 30/85
	402	Apr 1/82
	403	Apr 1/82
	*404	Apr 30/85
Check	*501	Apr 30/85
	502	Apr 1/82
Repair	*601	Apr 30/85
	*602	Apr 30/85
	*603	Apr 30/85
	*604	Apr 30/85
	*605	Apr 30/85
	*606	Apr 30/85

35-21-57

LEP-1

Apr 30/85

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

LIST OF EFFECTIVE PAGES (CONT'D)

<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>
Assembly	*701	Apr 30/85
	*702	Apr 30/85
	*703	Apr 30/85
	*704	Apr 30/85
	*705	Apr 30/85
	*706	Apr 30/85
	*707	Apr 30/85
	*708	Blank
Fits and Clearances	*801	Apr 30/85
	802	Blank
Special Tools, Fixtures and Equipment	*901	Apr 30/85
	*902	Apr 30/85
Illustrated Parts List	*1001	Apr 30/85
	1002	Apr 1/82
	1003	Apr 1/82
	1004	Apr 1/82
	1005	Apr 1/82
	1006	Apr 1/82
	*1007	Apr 30/85
	*1008	Apr 30/85
	*1009	Apr 30/85
	*1010	Apr 30/85
	1011	Apr 1/82
	1012	Apr 1/82
	1013	Apr 1/82
	1014	Blank

35-21-57

LEP-2

Apr 30/85

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
Description and Operation	1
Testing and Fault Isolation	101
Automatic Test Requirements (Atlas) (Not Applicable)	201
Disassembly	301
Cleaning	401
Check	501
Repair	601
Assembly	701
Fits and Clearances	801
Special Tools, Fixtures and Test Equipment	901
Illustrated Parts List	1001

35-21-57

T/C-1
Apr 1/82



801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

STATIONARY CYLINDER ASSEMBLY

INTRODUCTION

This manual establishes the proper maintenance procedures which shall be followed by user maintenance, overhaul and service personnel when performing any type of service on the 801307 Stationary Cylinder Assembly described herein.

It is the primary intent of this manual:

- a. To specify proper safety regulations to be followed during performance of service on oxygen equipment used in aviation applications.
- b. To establish proper sequence of operations to be performed on the defined equipment.
- c. To provide the user with the data necessary to properly maintain, check, test and repair the equipment.

The following WARNINGS are presented to inform the user of this manual of the requirements which shall be adhered to when performing service procedures on this equipment. Additional WARNINGS will be found in the procedural steps in the manual.

WARNING: ANY SERVICE OR OVERHAUL PERFORMED ON THIS APPARATUS SHALL BE DONE ONLY BY THOSE FACILITIES EXPERIENCED IN, OR BY PERSONNEL KNOWLEDGEABLE IN AVIATION OXYGEN EQUIPMENT. IF NONE ARE KNOWN, CONTACT SCOTT AVIATION OR ITS DISTRIBUTORS FOR NAMES OF AUTHORIZED SERVICE CENTERS.

WARNING: ALL PROCEDURES DESCRIBED IN THIS MANUAL SHALL BE PERFORMED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER COMBUSTIBLE MATERIALS. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE IGNITE AND RESULT IN AN EXPLOSION AND/OR FIRE.

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE, IGNITE AND RESULT IN AN EXPLOSION.

35-21-57

INTRO-1
Apr 1/82

9000

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

<u>Verification</u>	<u>Date</u>
Testing and Fault Isolation	June 8, 1984
Disassembly	June 8, 1984
Assembly	June 8, 1984

35-21-57

INTRO-2
Apr 30/85

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

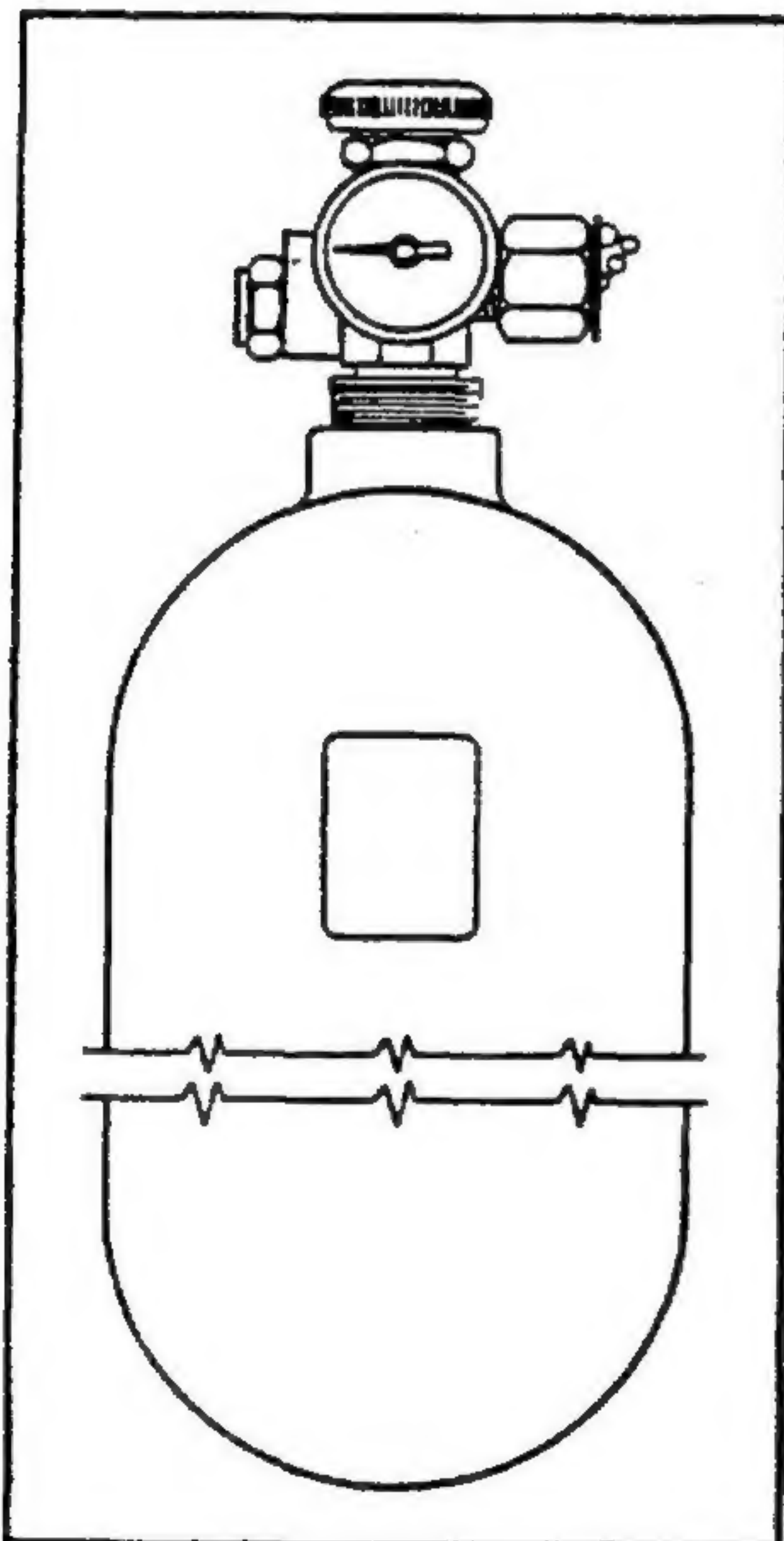
STATIONARY CYLINDER ASSEMBLY

DESCRIPTION AND OPERATION

1. General

- A. This manual provides overhaul instructions with illustrated parts list for the 801307 Series, Stationary Cylinder Assemblies (see figure 1). The complete part number of any particular cylinder assembly is an eight place number. An example part number and an explanation of the various numbers which make up a part number are shown in figure 2.

The cylinder assemblies, although similar in design and appearance, are used for various applications. The major applications are to supply oxygen at altitudes where oxygen is required for breathing.



80137 Series Stationary
Cylinder Assembly
Figure 1

2. Purpose of Equipment

- A. To furnish a predetermined supply of oxygen, dependent on the size of the cylinder.
- B. The valves covered in this manual are manually operated "on-off" oxygen valves which are designed with a slow opening feature and incorporate metal-to-metal seating. The valves are nominally rated for 1850 psi service.
- C. To furnish a shut-off valve for turning the oxygen "ON" or "OFF".
- D. To furnish a safety device to prevent over pressurization of oxygen cylinders.
- E. To furnish a gage to visually monitor the pressure of the oxygen supply.

90011

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

BASIC PART NO. 801307-00

DESIGNATION	CYLINDER PART NO.	OXYGEN CAPACITY (CU. FT.)	MAX. CHARGED WEIGHT (LB.)	CYLINDER COLOR	CYLINDER LETTERING COLOR	OXYGEN CYLINDER VALVE ASSEMBLY PART NO.	VALVE WEIGHT (LB.)
00	10003367	115.0	45.60	Waterfield Green	Yellow	801308-31	2.00
01	10003367	115.0	45.84	Waterfield Green	Yellow	801308-22	2.23
02	10003367	115.0	45.69	Waterfield Green	Yellow	801308-13	2.08
03	10003367	115.0	45.86	Waterfield Green	Yellow	801308-24	2.25
04	10003365	39.4	18.32	Waterfield Green	Yellow	801308-31	2.00
05	10003366	76.5	31.06	Waterfield Green	Yellow	801308-24	2.23
06	10003366	76.5	30.80	Waterfield Green	Yellow	801308-31	2.00
07	10003367	115.0	45.68	Waterfield Green	Yellow	801308-13	2.07
08	10003366	76.5	31.04	Waterfield Green	Yellow	801308-22	2.23
09	10003367	115.0	45.69	Waterfield Green	Yellow	801308-43	2.08
10	10003366	76.5	30.80	Waterfield Green	Yellow	801308-19	2.04
20	10005003	49.8	21.70	Waterfield Green	Yellow	801308-20	2.23
21	10005002	66.0	28.50	Waterfield Green	Yellow	801308-20	2.23
22	10003366	76.5	31.00	Waterfield Green	Yellow	801308-20	2.23
23	10003367	115.0	45.60	Waterfield Green	Yellow	801308-19	2.04
24	10003367	115.0	45.80	Waterfield Green	Yellow	801308-20	2.23
25	10005671	22.0	14.28	Waterfield Green	Yellow	801308-20	2.23

NOTE: *Weights given include oxygen cylinder valve assembly and
cylinder charged to 1850 psi with oxygen per
MIL-0-27210, Type I.

Leading Particulars of 801307 Series
Figure 2

35-21-57

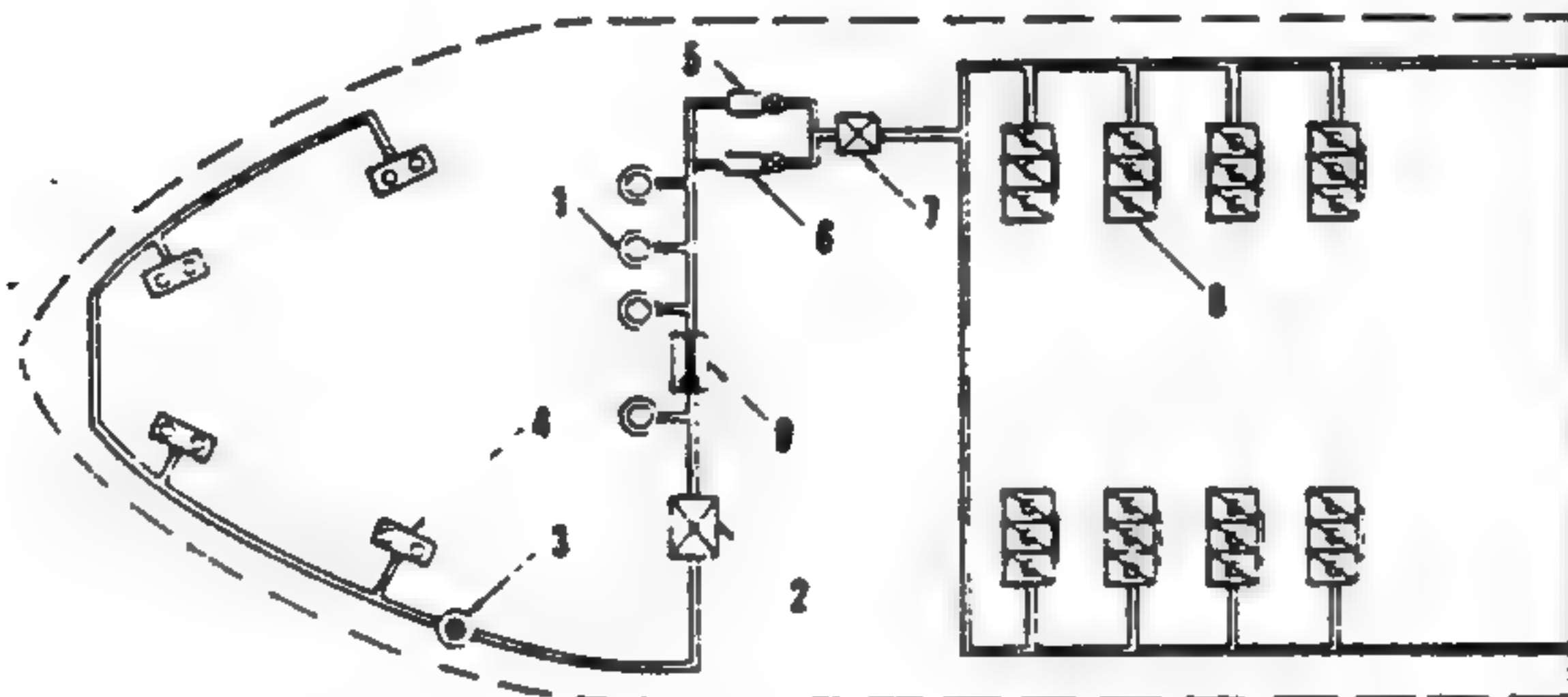
801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

3. Typical Installation

- A. A typical installation of the cylinder assembly is shown in figure 3. A slow opening cylinder valve assembly is installed on each high pressure oxygen cylinder (1). The valves provide for manual, positive opening and closing of the oxygen system.

4. Operation

- A. Operation of all cylinder assemblies is identical. The high pressure oxygen within the cylinder is released at the outlet when the shut-off valve is opened. The oxygen supply is maintained within the cylinder when the shut-off valve is closed.



- | | |
|--|--|
| 1. HIGH PRESSURE OXYGEN SOURCE WITH SLOW OPENING CYLINDER VALVE ASSEMBLY | 6. ELECTRICALLY OPERATED OXYGEN SYSTEM RELEASE VALVE |
| 2. PRESSURE REGULATOR | 7. AUTOMATIC CONSTANT FLOW PRESSURE REGULATOR |
| 3. LINE VALVE | 8. PASSENGER MASK COMPARTMENT DOOR |
| 4. DILUTER DEMAND REGULATORS | 9. CHECK VALVE |
| 5. ANEROID OPERATED OXYGEN SYSTEM RELEASE VALVE | |

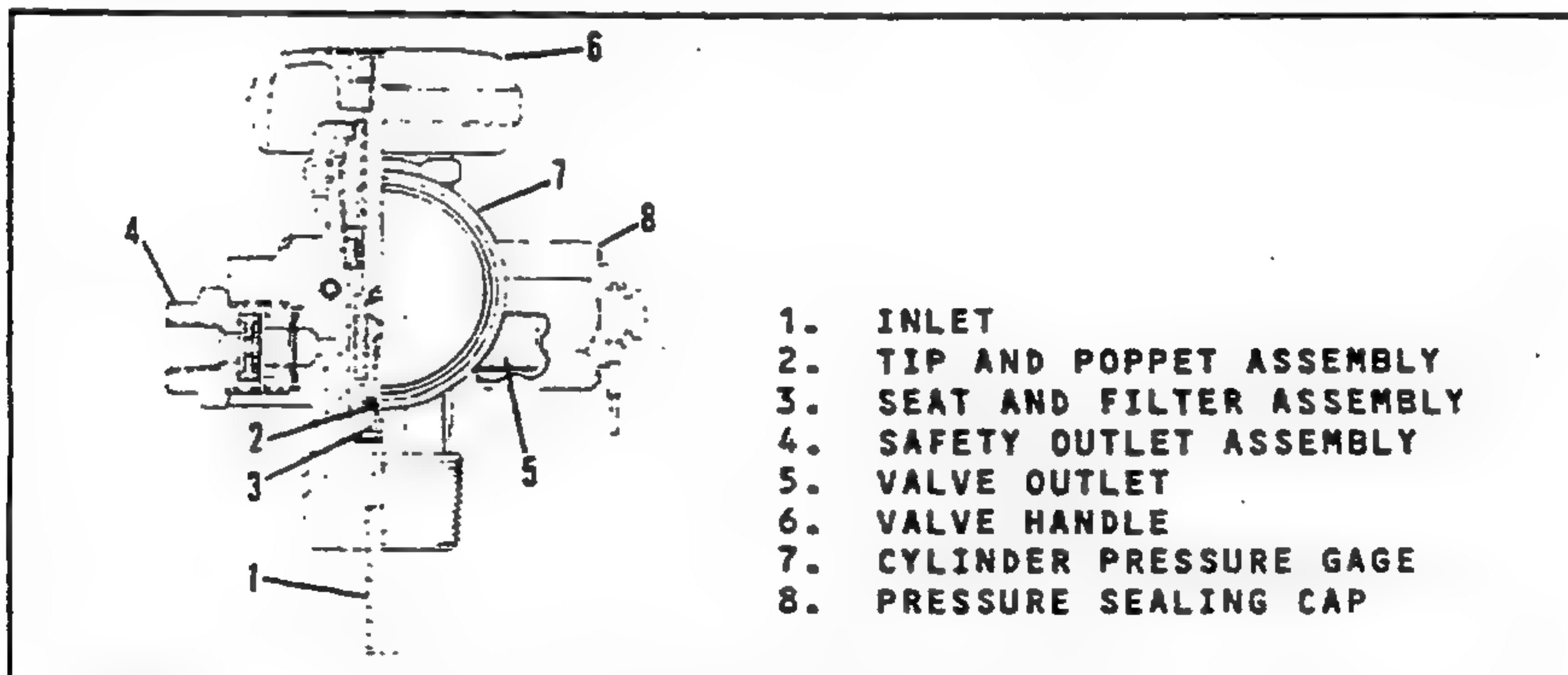
Typical Installation
Figure 3

BD1307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

- B. The cross section illustrated in figure 4 is representative of all the slow opening oxygen cylinder valve assemblies. With the valves installed in a high pressure oxygen cylinder and valve handle (6) closed (full clockwise), the oxygen is contained in the cylinder through the action of tip and poppet assembly (2) and seat and filter assembly (3). When valve handle (6) is opened (full counterclockwise), tip and poppet assembly (2) is raised away from seat and filter assembly (3) thereby allowing oxygen flow to outlet (5). The valves are equipped with safety outlet assemblies (4). The safety outlet assemblies are preset to rupture between 2500-2775 psi in order to vent oxygen in the event of system overpressurization. A cylinder pressure gage (7) is provided to indicate cylinder pressure.
- C. These valves restrict flow only during the initial opening phase, and will prevent a downstream deadended system from being brought up to system pressure too rapidly.

NOTE: Rapid pressurization of a system is adiabatic in nature and may result in a potentially hazardous temperature rise.

As with all valves, it should be opened fully and then backed off 1/4 of a turn. The valve is fully open at approximately 6-1/2 turns.



Oxygen Cylinder Valve Assembly
Figure 4



801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

VALVE CHARACTERISTICS:

- | | |
|--|---|
| 1. Torque to open or close
(Maximum) | 30 inch pounds (3.4 N.m) |
| 2. Torque to operate | 7 inch pounds (.8 N.m)
(Approximately) |
| 3. Full open position | 6-1/2 turns (Approximately) |
| 4. Permissible leakage across
seat with valve closed
(internal leakage); with
pressure sealing cap torqued
in position, permissible
external leakage is 5 cm ³ /h. | 50 cm ³ /min (Maximum) |

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

TESTING AND FAULT ISOLATION

1. Testing

WARNING: IN ALL PROCEDURES LISTED BELOW, OXYGEN IS SPECIFIED AS THE TEST GAS. WATER PUMPED NITROGEN OR OIL-FREE AIR MAY BE SUBSTITUTED, BUT RESULTS MUST BE CONVERTED PRIOR TO BEING COMPARED WITH THE RESULTS SPECIFIED FOR OXYGEN. DO NOT, UNDER ANY CIRCUMSTANCES, USE OIL PUMPED GAS AS THIS WILL CAUSE CONTAMINATION OF THE VALVE AND TEST EQUIPMENT. OIL, EVEN IN MINUTE QUANTITY, COMING IN CONTACT WITH OXYGEN MAY CAUSE AN EXPLOSION OR FIRE.

NOTE: The equipment required to test the cylinder and valve assemblies is shown in figure 101, and is considered to be standard in oxygen equipment overhaul shops.

NOTE: Table 101 lists the consumable materials required for testing. Equivalent materials may be used.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARAGRAPH
Oxygen -	MIL-O-27210, Type 1	V07098	All Testing
Rust Inhibiting Leak Test Solution	Sodium Chromate; 5cc per gallon of water	V72658	1. G (3)
*Refer to Illustrated Parts List, paragraph 1.D for Vendor's Codes.			

List of Consumable Materials for Testing
TABLE 101

- A. If required, subject the cylinders to hydrostatic testing in accordance with CGA Pamphlet C-1 and Hazardous Materials Regulations of Department of Transportation (DOT), Current Tariff No.
- B. Facilities performing such tests shall hold a current, valid DOT Approval.

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

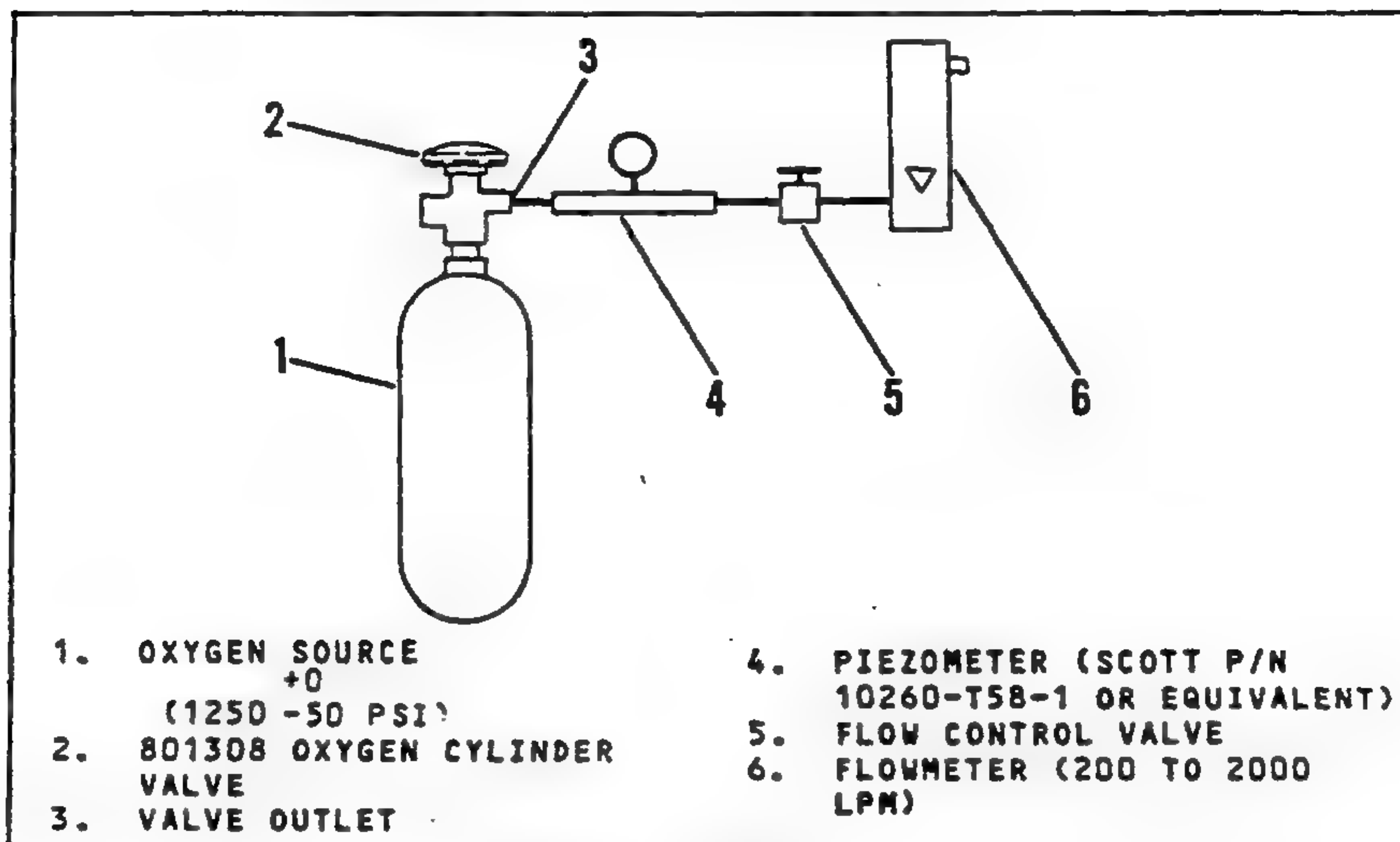
- C. After reassembly of the 801333 Body and Gage Assembly, perform a proof pressure test in accordance with the following procedure.
- (1) Install test plug (2, figure 902) in the over-pressure relief port in lieu of the appropriate outlet assembly. (Proof test will rupture safety outlet disc.)
 - (2) Cap the valve outlet, open the valve.
 - (3) Apply 2800 psi to the valve inlet. Observe the body and gage assembly for a period of two minutes, minimum. There shall be no evidence of permanent deformation or damage. Place valve in protective enclosure when performing this test.
 - (4) Relieve the pressure, uncap the outlet and remove the test plug. Replace the test plug with the appropriate outlet assembly per Assembly, step 2.
- D. After reassembly of the 801308 Oxygen Cylinder Valve, perform an internal leak test in accordance with the following procedure.
- (1) Open the valve, then, using a torque wrench, reclose with a torque not exceeding 60 ± 5 inch pounds ($6.8 \pm .57$ N.m).
 - (2) Apply 1850 ± 50 psi pressure to the valve inlet (cylinder mounting end) with the valve outlet uncapped.
 - (3) Open valve then reclose with a torque of 30 inch pounds (3.4 N.m) maximum.
 - (4) With a 10-100cc flowmeter attached to the valve outlet, measure leakage which, after stabilization, shall not exceed 50cc/min.
- E. Perform a torque test on the assembled 801308 Oxygen Cylinder Valve in accordance with the following procedure.
- (1) Close the valve and cap outlet.

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

+0

- (2) Apply 1850 -50 psi to the valve inlet.
 - (3) Fully open the valve using a torque wrench. This required opening torque shall not exceed 30 inch pounds (3.4 N.m).
 - (4) Close the valve with 30 inch pounds (3.4 N.m) and reopen fully. Repeat twice. Force required to open the valve shall not exceed 30 inch pounds (3.4 N.m).
- F. Perform a flow test on the assembled 801308 Oxygen Cylinder Valve in accordance with figure 101 and the following procedure.
- (1) Connect the oxygen cylinder valve to the test setup illustrated in figure 101.
 - (2) Fully open oxygen cylinder valve (2).
 - (3) Adjust flow control valve (5) for flow of 1000 LPM (NTPD) as read on flowmeter (6). The pressure drop through the valve shall not exceed 200 psi.
 - (4) Complete assembly by referring to Assembly, step 1.T.

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL



Flow Test Setup
Figure 101

6. After reassembly of stationary cylinder assembly, perform an external leakage test in accordance with the following procedure.
- (1) Charge cylinder with oxygen to full operating pressure, at a rate not to exceed 300 psi per minute.
 - (2) Allow cylinder to cool to room temperature and "top-off" if necessary.
 - (3) Cap the valve outlet, remove the bezel and lens from the gage, open valve until approximately half open and submerge valve and cylinder neck in leak test solution.



801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

- (4) Observe the valve for a period of two minutes. If leakage is apparent, the actual leakage shall be determined and shall be deemed acceptable only if it does not exceed 5 cm^3/h (0.083 cm^3/min).
- (5) Cycle the valve (from open to closed to fully open) twice and repeat step (4) with the valve fully open. If leakage is apparent, the actual leakage shall be determined and shall be deemed acceptable only if it does not exceed 5 cc/hour (0.083 cm^3/min).
- (6) After completion of the test, remove the cylinder and valve from the leak test solution and remove the cap from the outlet. Thoroughly dry the unit with clean, dry, oil-free air, paying particular attention to the interior of the gage.
- (7) Replace the gage lens and bezel.
- (8) Close the valve.
- (9) Store the stationary cylinder assembly for a minimum of 72 hours and repeat steps (3) through (8).

801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

2. Fault Isolation

A. See figure 102 for trouble shooting chart.

TROUBLE	PROBABLE CAUSE	REMEDY
Improper indication on gage (4, IPL figure 3)	Faulty gage (4, IPL figure 3)	Replace gage
Leakage between stem (21) and sleeve (16)	Faulty seal (18)	Replace seal
	Faulty stem (21)	Replace valve stem
	Faulty washer (20)	Replace washer
	Loose sleeve (16)	Retorque sleeve
Leakage at cylinder (17, IPL figure 1) neck when oxygen valve assembly is mated with cylinder	Damaged cylinder (17, IPL figure 1) threads	Replace cylinder
	Improper application of sealing tape	Reapply sealing tape
	Damaged threads on oxygen valve (11)	Replace oxygen valve
Internal leakage in excess of 50cc/min.	Faulty valve seat and filter assembly (23A, IPL figure 3)	Replace or retorque seat and filter assembly
	Faulty tip and poppet assembly (22)	Replace tip and poppet assembly
Leakage at safety outlet assembly	Broken disc (10, 10A, 16, 16A, 24, 24A, 32, 32A, 38, 38A, 48, 48A, 56, 56A, 60, 60A, 66, 66A, IPL figure 2)	Replace disc
	Loose retainer (9, 15, 23, 31, 37, 47, 55 or 65)	Retorque retainer per Table 801
	Defective gasket (11, 17, 25, 33, 39, 49, 57 or 67)	Replace gasket

Trouble Shooting Chart
Figure 102 (Sheet 1 of 2)

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

TROUBLE	PROBABLE CAUSE	REMEDY
Leakage at gage (4, IPL figure 3) connection	Faulty packings 8, IPL figure 3)	Replace packings
	Loose gage (4)	Torque screws (5) per Table 801

**Trouble Shooting Chart
Figure 102 (Sheet 2 of 2)**

35-21-57

Page 107/108

Apr 30/85

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPLDISASSEMBLY

NOTE: See Testing and Fault Isolation, to establish the condition of the unit or most probable cause of its malfunction. This is to determine the extent of disassembly required without completely tearing down and rebuilding the unit.

WARNING: COMPLETELY DISCHARGE ALL CYLINDERS PRIOR TO REMOVAL OF VALVE ASSEMBLY.

NOTE: Refer to the "EFFECT CODE" column of the Group Assembly Parts List for the parts applicable to the part number valve assembly being disassembled. Disregard instructions concerning parts that are not used on the valve being disassembled.

1. Disassemble any 801307 Series Stationary Cylinder Assembly by unthreading valve (11, IPL figure 1) from cylinder (17). Remove identification plate (10) and label (16) from the cylinder, only if damaged.
2. Disassemble the 801308 Oxygen Valve assemblies as follows (see IPL figure 2).
 - A. Remove outlet assembly (7 through 11), if applicable, by removing nut (7) and insert (8). Unthread retainer (9) with disc (10 or 10A) and gasket (11) attached to it, using driver (1 or 3, figure 902). Remove gasket (11, IPL figure 2) and disc (10 or 10A) from retainer (9).
 - B. Remove outlet assembly (13 through 17), if applicable, by removing fitting (13) and insert (14). Unthread retainer (15) with disc (16 or 16A) and gasket (17) attached to it, using driver (1 or 3, figure 902). Remove gasket (17, IPL figure 2) and disc (16 or 16A) from retainer (15).
 - C. Remove outlet assembly (19 through 25), if applicable, and disassemble as follows:
 - (1) Unthread cap assembly (19) from the outlet assembly and remove screw (20).
 - (2) Remove nut (21) and insert (22). Unthread retainer (23) with disc (24 or 24A) and gasket (25) attached to it, using driver (1 or 3, figure 902). Remove gasket (25, IPL figure 2) and disc (24 or 24A) from retainer (23).

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

- D. Remove outlet assembly (27 through 33), if applicable, and disassemble as follows:
- (1) Unthread cap assembly (27) from the outlet assembly and remove screw (28).
 - (2) Remove nut (29) and insert (30). Unthread retainer (31) with disc (32 or 32A) and gasket (34) attached to it, using driver (1 or 3, figure 902). Remove gasket (33, IPL figure 2) and disc (32 or 32A) from retainer (31).
- E. Remove outlet assembly (35 through 39), if applicable, by removing nut (35) and insert (36). Unthread retainer (37) with disc (38 or 38A) and gasket (39) attached to it, using driver (1 or 3, figure 902). Remove gasket (39, IPL figure 2) and disc (38 or 38A) from retainer (37).
- F. Remove outlet assembly (45 through 49), if applicable, by removing nut (45) and insert (46). Unthread retainer (47) with disc (48 or 48A) and gasket (49) attached to it, using driver (1 or 3, figure 902). Remove gasket (49, IPL figure 2) and disc (48 or 48A) from retainer (47).
- G. Remove outlet assembly (51 through 57), if applicable, and disassemble as follows:
- (1) Unthread cap assembly (51) from the outlet assembly and remove screw (52).
 - (2) Remove nut (53) and insert (54). Unthread retainer (55) with disc (56 or 56A) and gasket (57) attached to it, using driver (1 or 3, figure 902). Remove gasket (57, IPL figure 2) and disc (56 or 56A) from retainer (55).
- H. Remove outlet assembly (59 through 61), if applicable, by removing plug (59) with disc (60 or 60A) and gasket (61) attached to it. Remove gasket (61) and disc (60 or 60A) from plug (59).
- J. Remove outlet assembly (63 through 67), if applicable, by removing nut (63) and insert (64). Unthread retainer (65) with disc (66 or 66A) and gasket (67) attached to it, using driver (1 or 3, figure 902). Remove gasket (67, IPL figure 2) and disc (66 or 66A) from retainer (65).

BD1307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

3. Disassemble the BD1333 Body and Gage Assemblies as follows (see IPL figure 3).

- A. Remove gage (4) from body and tube assembly (39A, 40A, or 41A) by removing screws (5) and washers (6).
- B. Remove rings (7), packings (8) and ring (9) from gage (4); unthread guard (10), if applicable.
- C. Remove plate (11).
- D. Remove handle (12) by removing nut (13) and washers (14).
- E. Cut lockwire, unthread and remove retainer (15).
- F. Back-out sleeve (16) until it is disengaged from body and tube assembly (39A, 40A, or 41A) then pull stem (21) with all components mounted to it, out of body and tube assembly (39A, 40A or 41A).

CAUTION: IF SEAL (18) IS REMOVED FROM STEM (21), IT CANNOT BE REPLACED BY ANOTHER SEAL ALONE. KIT (42) SHALL BE USED.

- G. Remove sleeve (16) from stem (21), then remove guide (17). If replacement of seal (18) is required, slide retainer (19) with seal (18) off stem (21). Press seal (18) out of retainer (19) being careful to avoid marking seal contact surface on interior of retainer (19). If seal does not require replacement, the seal and retainer should be cleaned while assembled on stem (21) being careful not to scratch or mark stem sealing surface. Do not clean by immersion into solvent to avoid trapping solvent in seal (18).

CAUTION: DO NOT MAR STEM (21) WITH DRIFT PIN.

- H. Remove pin (23) from stem (21) using a hammer and drift pin.
- J. Unthread seat and filter assembly (23A) from body and tube assembly (39A, 40A, or 41A).
- K. Remove ball (24) and bearing (25).

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

- L. Disassemble cap assembly (32 through 37) using the following procedure.**
- (1) Remove cap assembly (32 through 37) by removing screw (28), fastener (30) and spacer (31).**
 - (2) Remove cable (32) from nipple (36) by removing screw (33), fastener (34) and washer (35).**
 - (3) Separate nipple (36) from nut (37).**
- M. Unthread filter assembly (38) from body and tube assembly (39A, 40A, or 41A).**

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

CLEANING

NOTE: Using the cleaning materials listed in Table 401, perform the cleaning procedures outlined in the following paragraphs. Equivalent materials may be used.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARA.
Di-Sanite	Di-Sanite	V44389	1.E.
Phosphoric-Isopropyl Mixture	Phosphoric Acid Isopropyl Alcohol (50% of each by Vol)	V70829 Note: Purchased separately	1.C.
Trichloroethane	1,1,1 Trichloroethane	V71984	1.D. 1.H.(1),(2),(3) 2.B.
*Refer to Illustrated Parts List, paragraph 1.D for Vendor's Codes.			

List of Cleaning Materials
Table 401

1. After inspecting cylinder in accordance with Check, perform the following cleaning procedure:

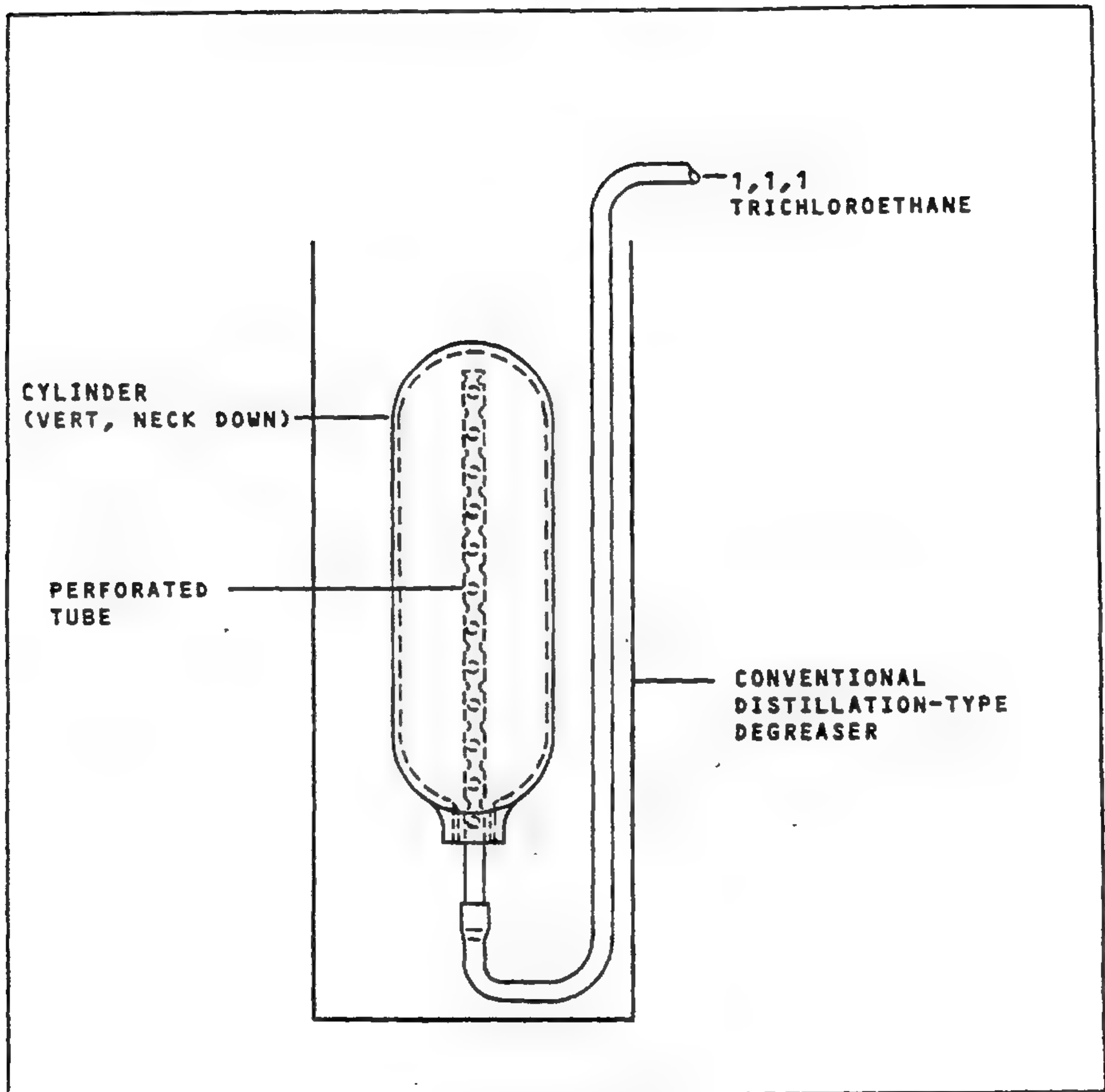
NOTE: This procedure will remove any organic impurities which are soluble in 1,1,1 Trichloroethane.

- A. Wire brush the cylinder neck threads to remove sealing compounds or rust.
- B. Shake out cylinder to remove any loose foreign matter.
- C. Apply a solution (50% by volume of phosphoric acid isopropyl alcohol) by brush to the area wire brushed, exercising care to prevent excessive application from running onto the cylinder.

WARNING: USE 1,1,1 TRICHLOROETHANE IN A WELL VENTILATED AREA ONLY. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN AND INHALATION OF TOXIC VAPORS.

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**



**Cleaning Setup
Figure 401**

35-21-57

Page 402
Apr 1/82

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

- D. Utilizing a cleaning setup as illustrated in figure 401, place the cylinder, with neck down, in vertical position over the perforated tube (the diameter and length of the tube will be determined by the particular size of the cylinder being cleaned). Pump 1,1,1 Trichloroethane, slightly below its boiling point, through the tube thoroughly spraying the interior of the cylinder being cleaned for a period of three minutes. Remove cylinder from tube and allow complete drainage of 1,1,1 Trichloroethane into drain.
- E. After completion of step D., and using a cleaning setup similar to the setup illustrated in figure 401, pump a solution of Di-Sanite (8 ounces per each gallon of water), at a temperature of 180°F, through the tube, thoroughly spraying the interior of the cylinder being cleaned for a period of three to five minutes. Accomplishment of step (5) will neutralize any acid constituents and destroy odor.
- F. After completion of step E., and using a cleaning setup similar to the setup illustrated in figure 401, pump water (at city pressure) at 160 to 180°F, through the tube, thoroughly spraying the interior of the cylinder being cleaned for a period of two minutes to remove any traces of alkaline residue.
- G. After completion of step F., and using a cleaning setup similar to the setup illustrated in figure 401, dry the interior of the cylinder with forced air heated to a temperature of 212°F, for a period of three to five minutes.
- H. After completion of step G., and after the cylinder has cooled to room temperature, reinspect the cylinder in accordance with Check.

NOTE: The cleaning process used should be checked initially and periodically as follows:

- (1) Pour 50cc of anhydrous, chemically pure, 1,1,1 Trichloroethane into the processed cylinder. Cap and shake well for one to two minutes.

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

- (2) Remove cap and pour flushings into a clean Erlenmeyer flask. Distill the 1,1,1 Trichloroethane in a water bath. After the 1,1,1 Trichloroethane has been distilled, examine residue in flask. If oil marks are visible, check cleaning solutions, implements and pressure.
 - (3) After completion of steps (1) and (2), and using a cleaning setup similar to the setup illustrated in figure 401, clear all traces of 1,1,1 Trichloroethane from the interior of the cylinder by blowing with dry, clean, oil-free air.
2. After inspecting the valve assembly in accordance with Check, perform the following cleaning procedure.

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE, IGNITE AND RESULT IN AN EXPLOSION.

- A. Remove dirt and foreign particles from equipment by wiping with a clean lint-free cloth, or by blowing with clean oil-free air or nitrogen.

WARNING: USE 1,1,1 TRICHLOROETHANE IN A WELL VENTILATED AREA ONLY. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN AND INHALATION OF TOXIC VAPORS.

- B. Metal parts which come in contact with oxygen and have become contaminated with grease can be cleaned by using a vapor degreasing method with 1,1,1 Trichloroethane. Blow clean and dry with a stream of clean dry, oil-free air.
- C. Non-metallic parts such as silicone and rubber components may be cleaned by using an ultrasonic detergent and water cleaning system. Rinse parts in clean water and dry thoroughly before reassembly.



801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

CHECK

1. Inspect exterior of cylinders for indications of abuse, dents, rust and bulges.

NOTE: The following are references for inspection of cylinders:

- A. Standard for Visual Inspection of Compressed Gas Cylinders - Pamphlet C-6.
- B. Standard for Requalification of DOT 3HT Cylinders - Pamphlet C-8.

Pamphlets available from Compressed Gas Association,
1235 Jefferson Davis Highway, Arlington, Virginia 22202.

2. Inspect neck of cylinders for cracks and distortion or damaged threads.
3. Inspect all cylinders for peeling external paint and obscure markings.
4. Inspect all high pressure cylinders for last date of hydrostatic test and type. If hydrostatic testing is required, test in accordance with Testing, Step 1.A.

NOTE: DOT type 3HT cylinders require hydrostatic retesting every 3 years. DOT type 3A and 3AA cylinders require hydrostatic retesting every 5 years. Under certain usage conditions, DOT type 3A and 3AA cylinders may be retested at 10 year intervals. Refer to the current tariff of the "HAZARDOUS MATERIAL REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION" (49 CFR 170) paragraph 173.34 (e) (15) for eligibility requirements.

5. Inspect interior of cylinders for defects which might render the cylinder unsafe.

NOTE: Inspect the interior of cylinders with the aid of a small electric light to give complete visibility of interior.

6. Inspect the interior of cylinders for rust spots, improper parkerizing, or surface blemishes.

35-21-57

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

7. Inspect valves for cracks, nicks, dents or burrs which might cause malfunction.
8. Inspect valve seats for scoring.
9. Inspect all threads of valves for damage.
10. Inspect overall condition of all components.

SCOTT

**B01307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

REPAIR

NOTE: Table 601 lists the consumable materials for repair. Equivalent materials may be used.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARAGRAPH
Chromic Acid	Chromic Acid	V72658	2.E
Phosphoric Acid	Phosphoric Acid	V70829	2.C
Phosphate	ZnPO ₄	V44389	2.C
*Refer to Illustrated Parts List, paragraph 1.D for Vendor's Codes.			

List of Consumable Materials for Repair
Table 601

1. Replace cylinders that show signs of abuse, dents, bulges, cracks, distortion, damaged threads, and/or defects which might render the cylinder unsafe (refer to Check, steps 1, 2, 3, and 5).

NOTE: DOT 3HT Type cylinders must be discarded at the end of twenty-four years from original test date or 4,380 pressurizations, whichever occurs first.

2. Cylinders that require interior protective treatment may be reparkerized as follows: (Refer to Check, step 6.)
 - A. Sandblast cylinders internally and externally using fine grit shot.
 - B. Rinse cylinder in clean water.
 - C. Apply a phosphate coating to the interior of the cylinder either by dipping or spraying. For dip-coating, a three minute minimum dip is recommended; for spray-coating, one minute minimum is recommended.

NOTE: The balanced aqueous solution of phosphoric acid, phosphates, and accelerating agents produce a uniform water insoluble crystalline coating varying from gray to black in color.

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

- D. Rinse cylinder in clean water.
- E. Rinse cylinder in hot chromic acid (140 to 210°F) (60 to 99°C).

NOTE: The pH of the chromic acid rinse will be maintained between 2 and 4 by the addition of flake chromic acid or a mixture of chromic and phosphoric acids.

- F. Dry the cylinder by using warm air or a drying oven.

NOTE: For maximum corrosion resistance, coating weights of 400 mg/sq. ft. are usually adequate. This coating weight may be reduced to 200 mg/sq. ft. if an activator (titanium salts) is used. The coating weight may be deceptive if loosely adherent deposits are obtained, since loosely adherent deposits give inferior performance. Finely crystallizing zinc phosphate coatings provide the best corrosion resistance.

- G. If the exterior finish is removed it must be recoated with 1000 mg/sq. ft. min. phosphate, and primed per MIL-P-8585A, color Y.

- 3. Remark and/or repaint cylinders in accordance with information outlined in figure 2.

- 4. 801308 Oxygen Valve Assembly (see IPL figure 2).

- A. Repair of parts is not recommended. Replace disc (10, 10A, 16, 16A, 24, 24A, 32, 32A, 38, 38A, 48, 48A, 56, 56A, 60, 60A, 66 or 66A), gasket (11, 17, 25, 33, 39, 49, 57, 61 or 67) and obviously defective parts at overhaul.
- B. Replace retainer (9, 15, 23, 31, 37, 47, 55 or 65) if its disc has ruptured.

SCOTT

801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

- C. The following part number 801308-31 Oxygen Cylinder Valves, listed by serial number, do not contain ring (9, IPL figure 3). Install ring (9) at next scheduled overhaul.

SERIAL NUMBER

101 through 119
121 through 124
126 through 148
150 through 165
168 through 173
175 through 187
189 and 190
192 through 194

SERIAL NUMBER

197
199 through 201
205 through 210
220 through 227
229 through 234
240 and 241
255

5. 801333 Body and Gage Assembly (see IPL figure 3).

- A. Repair of parts is not recommended. Replace packings (8), identification plate (11), washer (20) and filter assembly (38).

CAUTION: DO NOT ATTEMPT TO INSTALL SEAL (18) BY ITSELF. USE SEAL REPLACEMENT KIT (42) ONLY TO REPLACE SEAL.

- B. Replace seal (18), only if required, with seal replacement kit (42).

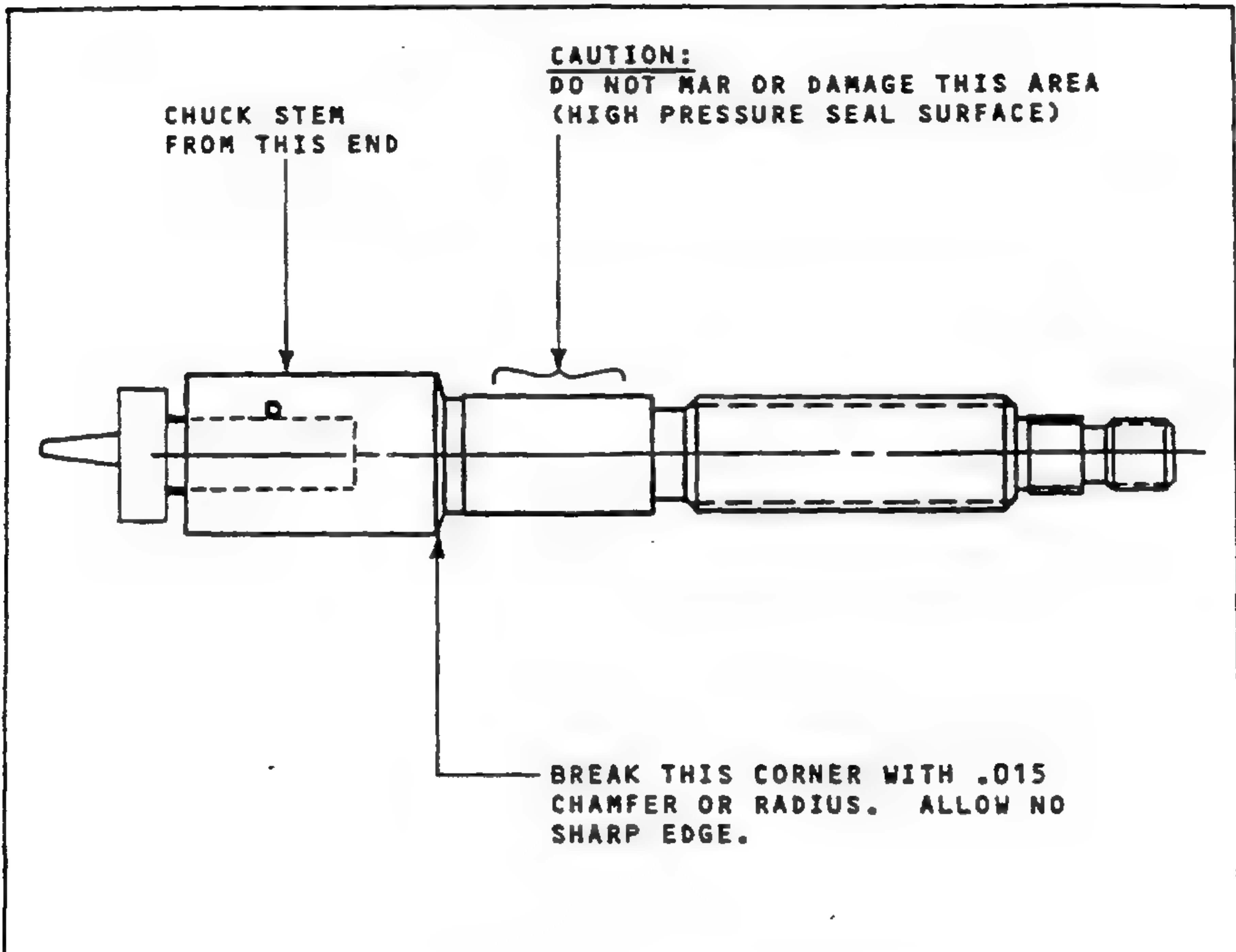
6. 801333 Body and Gage Assembly (see IPL figure 3).

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE IGNITE AND RESULT IN AN EXPLOSION.

Replacement of the valve seat and filter assembly in the P/N 801333-01, 801333-02 and 801333-03 Body and Gage Assemblies used on P/N 801307-00 through 801307-08 Stationary Cylinder Assemblies prior to S/N 6500, shall be accomplished using the following procedure. This procedure describes the steps necessary to remove the seat retainer (P/N 10001991) and the seat assembly (P/N 801417-00) and their replacement with seat assembly (P/N 801417-01) which is both removable and replaceable. This procedure also calls attention to the addition of a stem chamfer which should be added to all units prior to S/N 6500.

500II

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**



**Stem Rework
Figure 601**

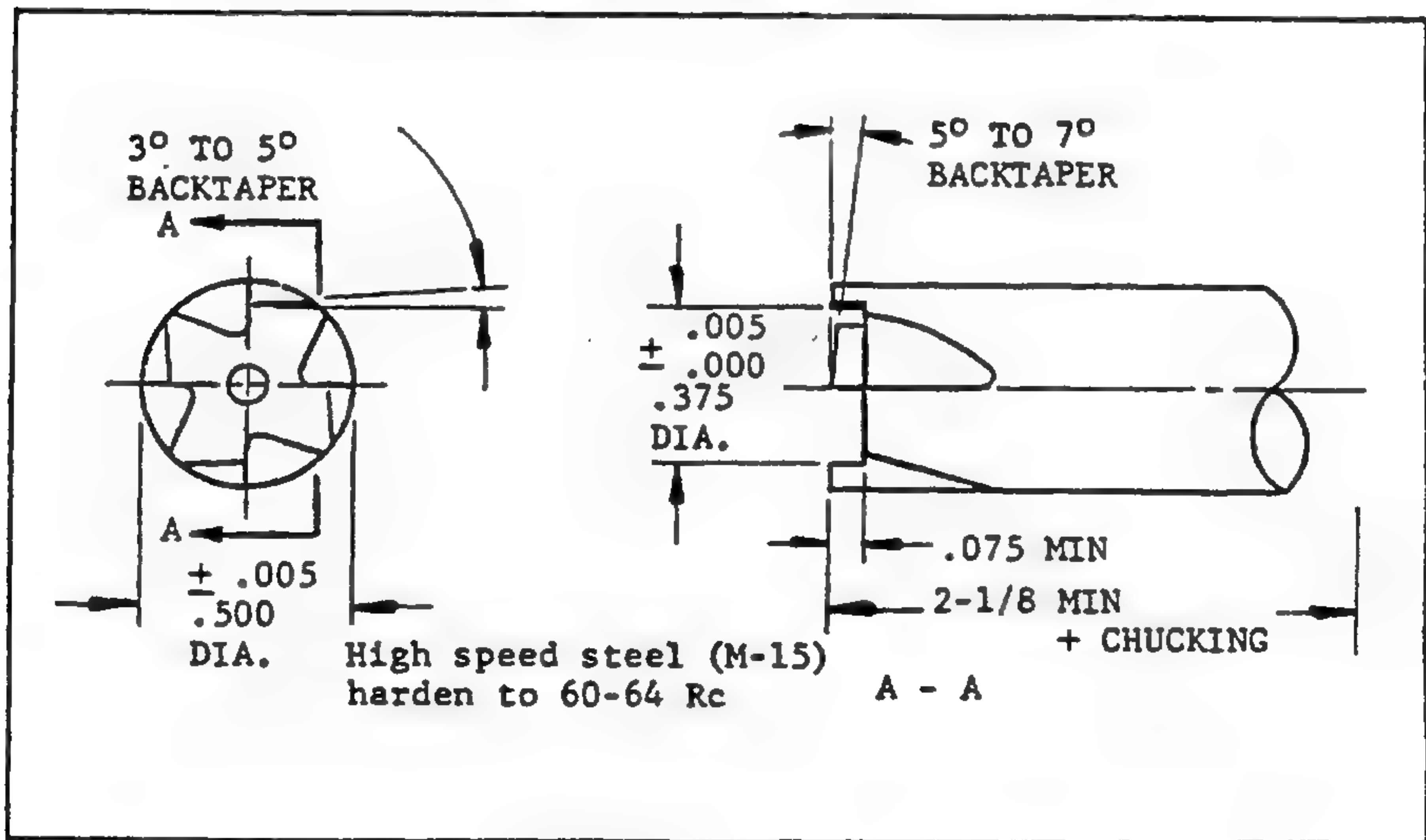
- A. Perform disassembly, steps 1. through 3.G. inclusive described in this ATA manual.
- B. Add chamfer to stem (21, IPL figure 3) in location noted in figure 601.

35-21-57

Page 604
Apr 30/85

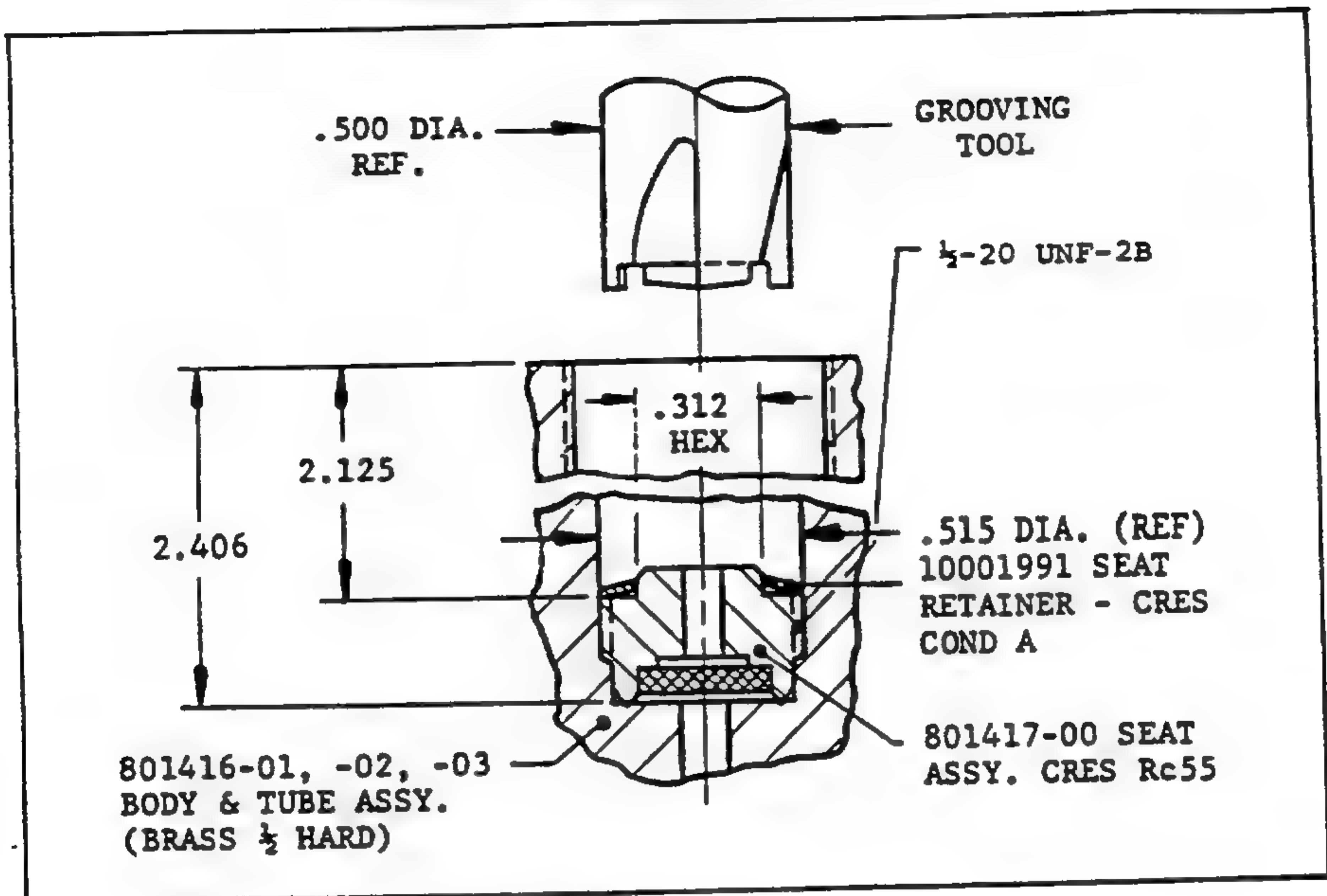
801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

- C. Insert a 5/16" deep socket (SNAP-ON 5/16 STM 10 or equivalent) to engage hex of seat. Grind hex end of socket square to provide maximum engagement.
- D. Tap socket with mallet or hammer to both flatten seat retainer (P/N 10001991) and to achieve maximum engagement of socket on seat hex.
- E. Remove seat assembly, turning counterclockwise.
- F. If the seat cannot be removed using steps C. through E. above, it will be necessary to remove P/N 10001991 Seat Retainer (not illustrated in this manual) by machining in order to provide sufficient engagement of 5/16" hex socket and the seat assembly.
 - (1) Prepare a tool similar to that shown in figure 602.
 - (2) Fixture valve body in a vertical milling machine.



Grooving Tool
Figure 602

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL



Valve Rework
Figure 603

- (3) Machine carefully so that only the seat retainer is removed. Use figure 603 as a guide.
 - (4) After seat retainer has been removed, remove the seat and filter assembly using a 5/16" deep socket.
 - (5) After removal of the seat and filter assembly, inspect the valve body internal threads. The 1/2-20 UNF-2B thread shall be full to within 0.050", or one thread pitch of bottom. Chase thread with bottoming tap if required.
 - (6) Clean body and tube assembly per Cleaning, step 2.
- G. Insert P/N 801417-01 Seat and Filter Assembly and torque to 240 pound-inches (27.1 N.m).

SCOTT**BD1307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL****ASSEMBLY**

NOTE: Table 701 lists the consumable materials required for reassembly. Equivalent materials may be used except for oxygen lubricant.

NOTE: Refer to the "EFFECT CODE" column of the Group Assembly Parts List for the parts applicable to the part number valve assembly being reassembled. Disregard instructions concerning parts that are not used on the valve assembly being reassembled.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARA.
Sealing Tape	Parmacel Tape No. 412	V99742	3
Paint	Temp-Alarm	V82682	1.T
Loctite	Locite, Grade A	V05972	1.B(1), (2), 1.M
Oxygen Lubricant	Krytox 240 AC	V18873	2.A(2), 2.B(2), 2.C(2), 2.D(2), 2.E(2), 2.F(2), 2.G(2), 2.H(2), 2.J(2)
Lockwire	MS20995C20	-----	1.L, 2.A(4), 2.C(4), 2.D(4), 3.E(4), 2.F(4), 2.G(4), 2.H(4), 2.J(4)
*Refer to Illustrated Parts, paragraph 1.D for Vendor's Codes.			

**List of Consumable Materials for Assembly
Table 701**

35-21-57

Page 701
Apr 30/85

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

1. Assemble the 801333 Body and Gage Assemblies as follows (see IPL figure 3).
 - A. Torque filter assembly (38) into body and tube assembly (39A, 40A, or 41A) per Table 801.
 - B. Reassemble cap assembly (32 through 37) as follows:
 - (1) Insert nipple (36) in nut (37). Place one end of cable (32) on washer (35) and attach to nipple (36) with fastener (34) and screw (33). Apply a coat of Loctite to threads of screw (33) prior to assembly.
 - (2) Slip spacer (31) through loop in cable (32) and attach to body and tube assembly (39A, 40A, or 41A) using fastener (30), and screw (28) after the body and gage assembly has been installed in cylinder (17, IPL figure 1); apply Loctite to threads of the screw prior to assembly.
 - C. Torque seat and filter assembly (23A, IPL figure 3) into body and tube assembly (39A, 40A, or 41A) per Table 801.
 - D. Place bearing (25) in stem (21), then install ball (24) after sparingly applying a wipe coat of Krytox to the ball.
 - E. Attach tip and poppet assembly (22) to stem (21) with pin (23) if it was disassembled.
 - F. Drop washer (20) into body and tube assembly (39A, 40A, or 41A), then slide retainer (19) over stem (21), noting carefully proper installation direction from IPL figure 3.
 - G. Install seal (18) using kit (42) and instructions contained in the kit, if it was removed during disassembly.
 - H. Slide guide (17) over stem (21).
 - J. Install components assembled in steps (D) through (G) into body and tube assembly (39A, 40A, or 41A) until they bottom.

9000

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

- K. Torque sleeve (16) into body and tube assembly (39A, 40A, or 41A) per Table 801 after applying a wipe coat of Krytox to 5/16-24 threads of stem (21).
 - L. Thread retainer (15) onto body and tube assembly (39A, 40A, or 41A). Lockwire the retainer to the body and tube assembly per applicable instructions on MS33540.
 - M. Apply a coat of Loctite to threads on tip of stem (21). Slide handle (12) onto stem (21) and retain in place with washer (14) and nut (13).
 - N. Install plate (11) in handle (12).
 - P. Thread guard (10) onto body and tube assembly (39A, 40A, or 41A), then place one ring (7), one packing (8), ring (9), second packing (8) and second ring (7) onto gage (4) stem.
 - R. Mount gage (4) on body and tube assembly (39A, 40A, or 41A) using washer (6) and screws (5).
 - S. Test in accordance with Testing, steps 2 through 5.
 - T. Cover screw (5) heads with Temp-Alarm paint.
2. Assemble the 801308 Oxygen Valve Assemblies as follows (see IPL figure 2).

CAUTION: THE TORQUE VALUES LISTED IN TABLE 801 SHALL BE STRICTLY ADHERED TO WHEN INSTALLING RETAINERS. TORQUE VALUES DEPEND ON THE TYPE OF SAFETY DISC BEING INSTALLED.

- A. Reassemble outlet assembly (63 through 67) as follows:
- (1) Position disc (66 OR 66A) and gasket (67) into retainer (65).
 - (2) Apply a wipe coat of Krytox to exposed surface of gasket (67).
 - (3) Thread retainer (65) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

- (4) Position insert (64, IPL figure 2) in nut (63) and thread the nut into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.

B. Reassemble outlet assembly (59 through 61) as follows:

- (1) Position disc (60 or 60A) and gasket (61) in plug (59).
- (2) Apply a wipe coat of Krytox to exposed surface of gasket (61).
- (3) Thread plug (59) into body and gage assembly (40).

C. Reassemble outlet assembly (51 through 57) as follows:

- (1) Position disc (56 or 56A) and gasket (57) into retainer (55).
- (2) Apply a wipe coat of Krytox to exposed surface of gasket (57).
- (3) Thread retainer (55) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.
- (4) Position insert (54, IPL figure 2) in nut (53) and thread nut (53) into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.
- (5) Secure cap assembly (51) to nut (53) with screw (52). Thread cap assembly (51) onto end of nut (53) after completion of Testing.

D. Reassemble outlet assembly (45 through 49) as follows:

- (1) Position disc (48 or 48A) and gasket (49) into retainer (47).
- (2) Apply a wipe coat of Krytox to exposed surface of gasket (49).
- (3) Thread retainer (47) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.

801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

- (4) Position insert (46, IPL figure 2) in nut (45) and thread nut (45) into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.

E. Reassemble outlet assembly (35 through 39) as follows:

- (1) Position disc (38 or 38A) and gasket (39) into retainer (37).
- (2) Apply a wipe coat of Krytox to exposed surface of gasket (39).
- (3) Thread retainer (37) into body and gage assembly (40), using driver (1 or 3, figure 902) and torque per Table 801.
- (4) Position insert (36, IPL figure 2) into nut (35) and thread nut (35) into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.

F. Reassemble outlet assembly (27 through 33) as follows:

- (1) Position disc (32 or 32A) and gasket (33) into retainer (31).
- (2) Apply a wipe coat of Krytox to exposed surface of gasket (33).
- (3) Thread retainer (31) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.
- (4) Position insert (30, IPL figure 2) in nut (29) and thread nut (29) into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.
- (5) Secure cap assembly (27) to nut (29) with screw (28). Thread cap assembly onto end of nut (29) after completion of Testing.

G. Reassemble outlet assembly (19 through 25) as follows:

- (1) Position disc (24 or 24A) and gasket (25) into retainer (23).

**BD1307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

- (2) Apply a wipe coat of Krytox to exposed surface of gasket (25).
- (3) Thread retainer (23) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.
- (4) Position insert (22, IPL figure 2) in nut (21) and thread nut (21) into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.
- (5) Secure cap assembly (19) to nut (21) with screw (20). Thread cap assembly onto end of nut (21) after completion of Testing.

H. Reassemble outlet assembly (13 through 17) as follows:

- (1) Position disc (16 or 16A) and gasket (17) into retainer (15).
- (2) Apply a wipe coat of Krytox to exposed surface of gasket (17).
- (3) Thread retainer (15) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.
- (4) Position insert (14, IPL figure 2) into fitting (13) and thread fitting (13) into body and gage assembly (40). Lockwire the fitting to the body and gage assembly per applicable instructions of MS33540.

J. Reassemble outlet assembly (7 through 11) as follows:

- (1) Position disc (10 or 10A) and gasket (11) into retainer (9).
- (2) Apply wipe coat of Krytox to exposed surface of gasket (11).
- (3) Thread retainer (9) into body and gage assembly (40) using driver (1 or 3, figure 902) and torque per Table 801.

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

- (4) Position insert (8, IPL figure 2) in nut (7) and thread nut (7) into body and gage assembly (40). Lockwire the nut to the body and gage assembly per applicable instructions of MS33540.

- 3. Assemble the 801307 Series Stationary Cylinder Assembly as follows (see IPL figure 1).

NOTE: Use sealing tape on all except the first thread of valves prior to mating with cylinders. Wrap no more than three turns of tape on threads. Wrap tape in direction of thread spiral; trim off excess tape. Tape shall not extend beyond first thread.

- A. Secure plate (10) to cylinder (17).
- B. Thread appropriate valve (11) into cylinder (17) and torque per Table 801.
- C. Apply label (16) to cylinder (17) in line with gage (4, IPL figure 3).

- 4. Storage Instructions

- A. Seal all ports to prevent foreign matter from entering the valve. Store in sealed polyethylene or polyvinyl bags.
- B. Do not use any preservative coating on the cylinder assemblies.
- C. Charge cylinders until a pressure indication is available (150 psi minimum).

801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

FITS AND CLEARANCES

1. Table 801 presents the torque values necessary to assemble the unit.

UNIT	TORQUE (NEWTON METERS)
Valve (11, IPL figure 1)	150 foot-pounds (203.4)
Retainer (9, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (15, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (23, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (31, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (37, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (47, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (55, IPL figure 2)	*275/375 pound-inches (31/42) max.
Retainer (65, IPL figure 2)	*275/375 pound-inches (31/42) max.
Seat and Filter Assy (23A, IPL figure 3)	240 pound-inches max. (27.1)
Screw (5, IPL figure 3)	12 pound-inches (1.35)
Sleeve (16, IPL figure 3)	160 pound-inches (18.1)
Filter Assembly (38, IPL figure 3)	60 pound-inches (6.8)
*Torque retainer to 275 pound-inches (31 N.m) maximum when installing disc, P/N 10003742 (silver) or to 375 pound-inches (42.3 N.m) maximum when installing disc, P/N 10006001 (bronze).	

Assembly Torque Values
Table 801

SCOTT

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

SPECIAL TOOLS, FIXTURES AND EQUIPMENT

1. All special tools, fixtures and equipment required to overhaul the cylinder and valve assemblies are listed in figure 901 and illustrated in figure 902. Equivalent substitutes may be used.

ITEM NO.	PART NUMBER	PART NAME	APPLICATION
1	10850-T91-3	Driver	Used to install/remove retainers (9, 15, 23, 31, 37, 47, 55 and 65, IPL figure 2) in valve assemblies using discs (10, 16, 24, 32, 38, 48, 56, 60 and 66)
2	801333-T58-1	Test Plug	Used during proof pressure testing
3	2786-S52-1	Driver	Used to install/remove retainers (9, 15, 23, 31, 37, 47, 55 and 65, IPL figure 2) in valve assemblies using discs (10A, 16A, 24A, 32A, 38A, 48A, 56A, 60A and 66A)

NOTE: All special tools listed are manufactured by Scott Aviation, Lancaster, New York.

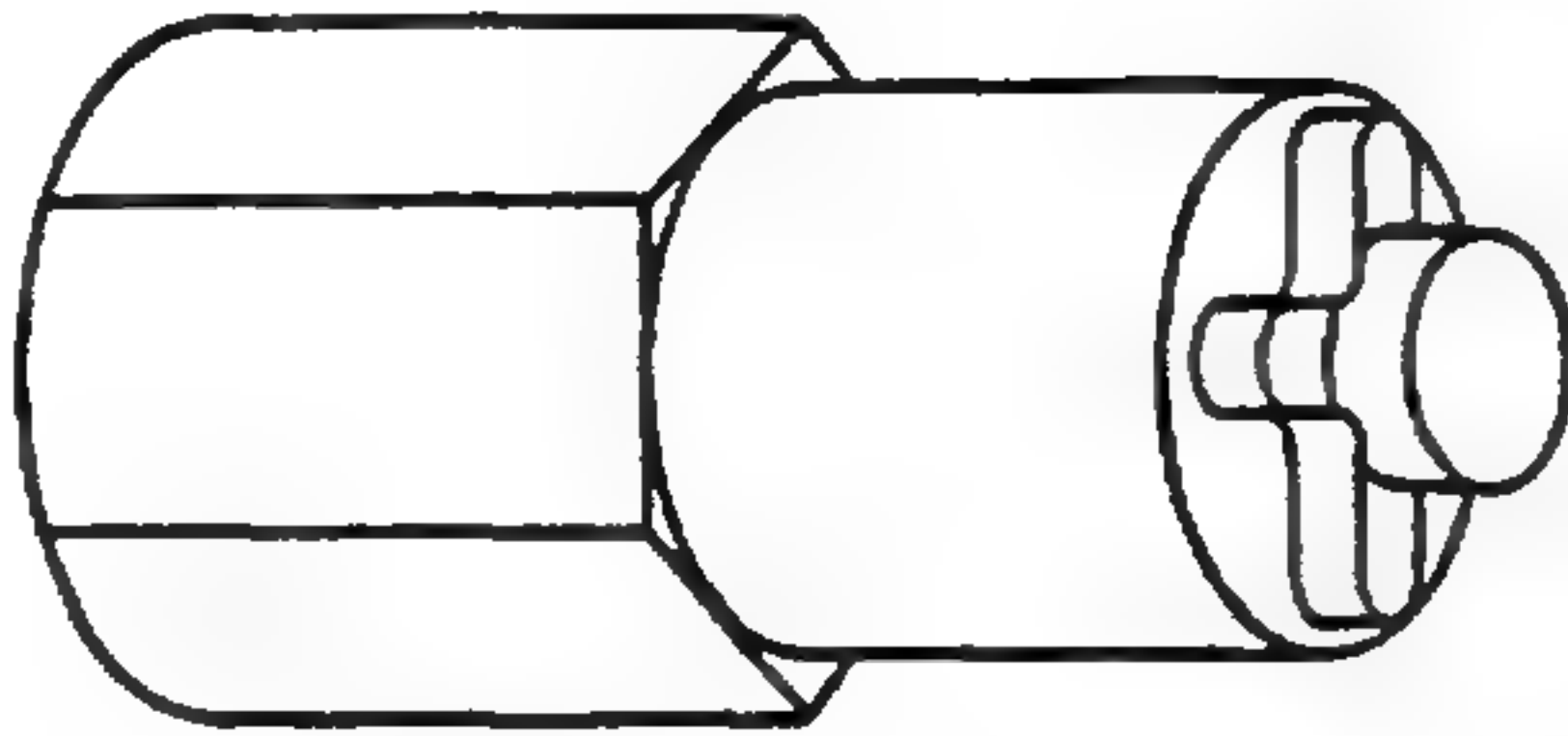
Special Tools List
Figure 901

35-21-57

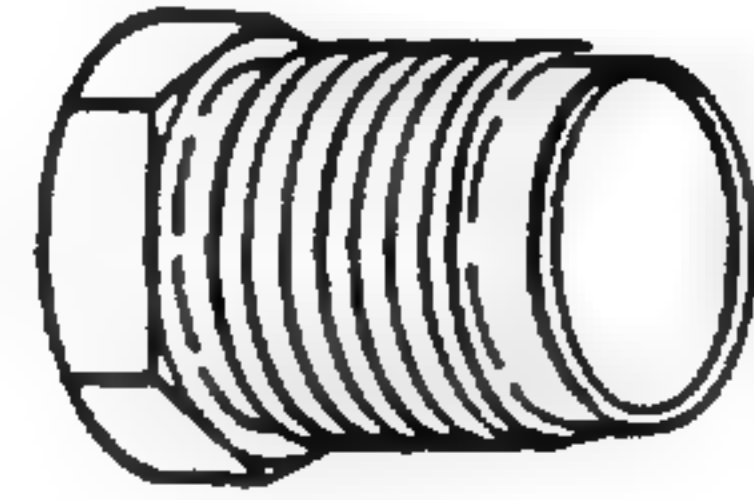
Page 901
Apr 30/85

SCOTT

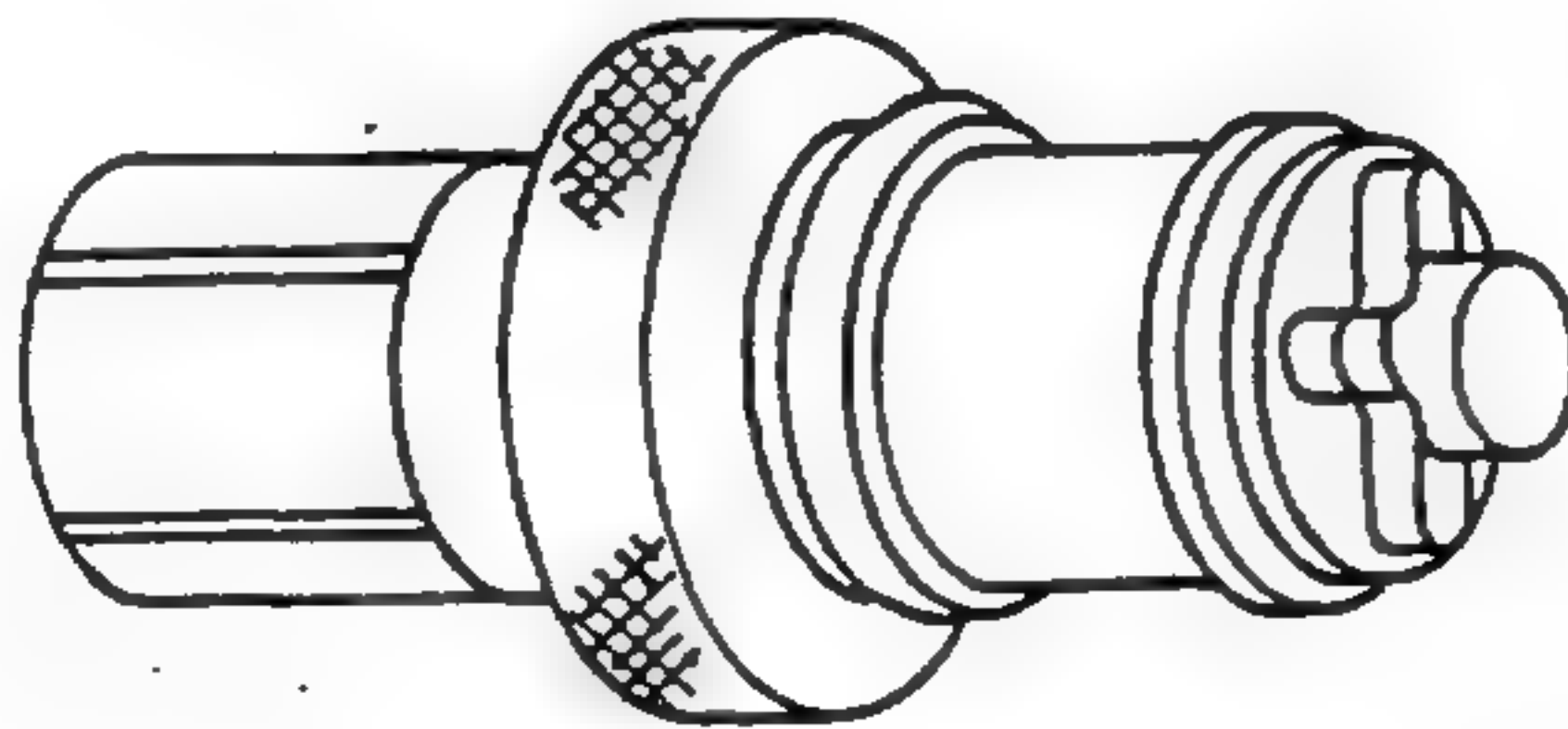
**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**



1



2



3

**Special Tools
Figure 902**

35-21-5

Page 9C
Apr 30/2

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

ILLUSTRATED PARTS LIST

1. This Illustrated Parts List lists and describes the parts for the 801307 series Stationary Cylinder Assemblies.
 - A. The Illustrated Parts List consists of parts listings and completely indexed drawings. The particular cylinder valves and body and gage assemblies are followed immediately by their component parts, properly indented thereunder, to show their relationship to the assembly.
 - B. The quantities listed in the "UNITS PER ASSY" column are, in the case of assemblies, the total quantity used per cylinder assembly at the location indicated, while the component parts indented under the assemblies are the quantity used per assembly. The quantities specified, therefore, are not necessarily the total used per cylinder assembly.
 - C. The part numbers listed in the "PART NUMBER" column are Scott Aviation part numbers except standard parts, which are listed by "MS" and "AN" part numbers, and vendor items, which are listed by vendor part numbers.
 - D. A six place code, following the description of a part, indicates the manufacturer of that part. Standard parts and parts carried under Scott part numbers have no vendor's code. The following list contains the codes, and names and addresses of manufacturers supplying items or articles for the cylinder assemblies. This listing includes the vendor codes presented in Tables 101, 401, 601 and 701.

VENDOR'S CODE

CODE	NAME AND ADDRESS
V05972	Loctite Corporation Newington, Connecticut
V07098	Union Carbide Corporation Linde Division Tonawanda, New York
V09055	Bal-Seal Engineering Company LaHabra, California

35-21-57

Page 1001

Apr 30/85

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

VENDOR'S CODE (Continued)

CODE	NAME AND ADDRESS
V18873	E.I. DuPont DeNemours & Company, Inc. Wilmington, Delaware
V44389	Oakite Products, Inc. Berkely Heights, New Jersey
V70829	J.T. Baker Chemical Company North Phillipsburg, New Jersey
V71984	Hooker Chemical Corporation Niagara Falls, New York
V72658	Allied Chemical Corporation Morristown, New Jersey
V82682	Tempil Div. of Big Three Industries South Plainfield, New Jersey
V99742	Johnson and Johnson, Inc. Permacel Division New Brunswick, New Jersey

2. How to use this Illustrated Parts List

- A. If neither the part number nor the nomenclature is known, the part can be found by comparison with the exploded view illustration. When located on the illustration, the index number will refer to the line in the Illustrated Parts List with the part number and the nomenclature.

3. How to determine the applicable "EFFECT CODE"

- A. Parts used on only one part number cylinder assembly (see IPL figure 1) are indicated by a letter symbol immediately following the description of a part in the "EFFECT CODE" column. An explanation of the letter symbols used is outlined below. In cases when the "EFFECT CODE" column has been left blank, parts listed are common to all cylinder assemblies.

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**

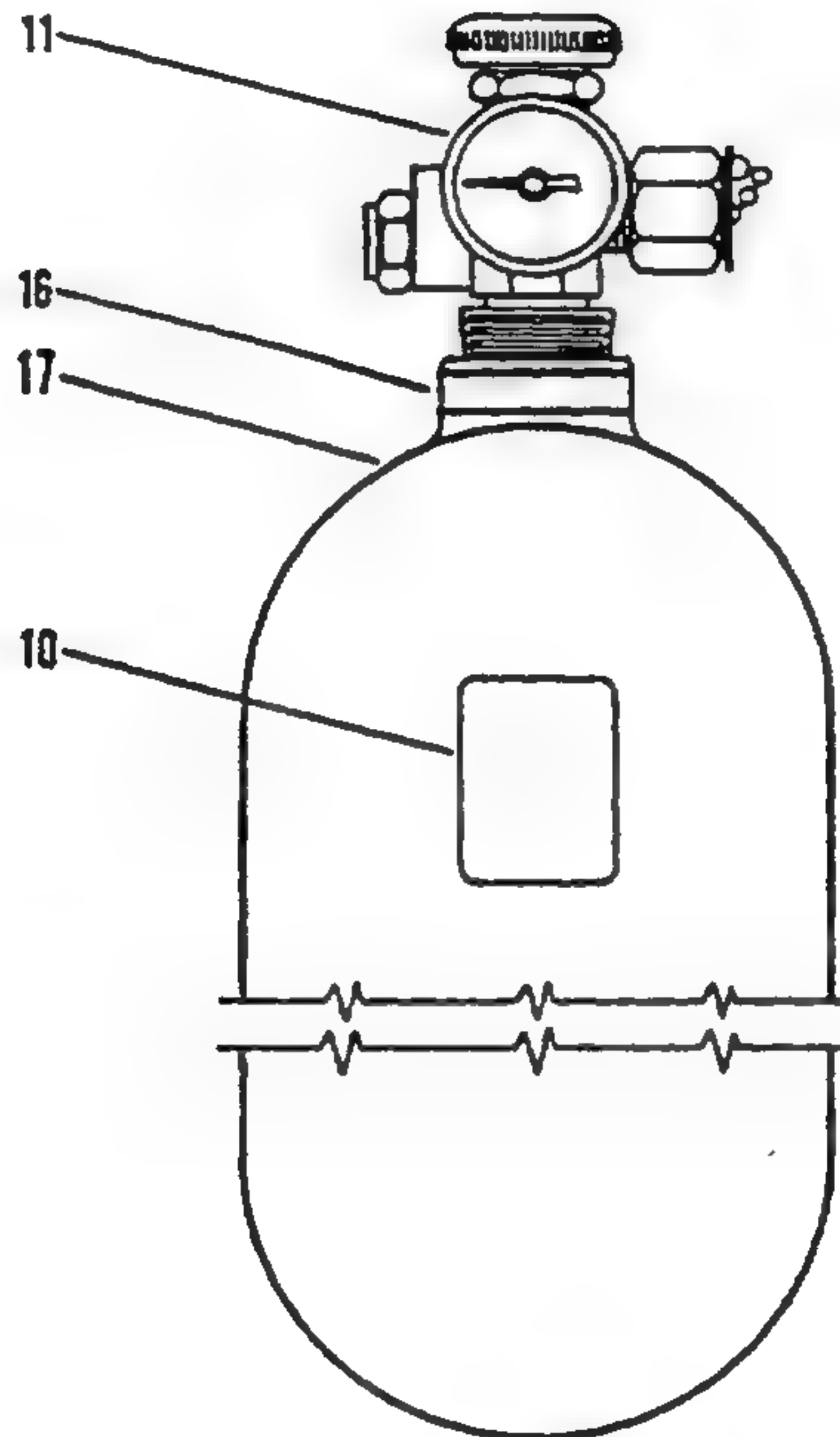
- B. Parts which at the present time have no usage, but are available for installation on the cylinder assemblies are denoted with "N/USG" in the "EFFECT CODE" column.

<u>PART NUMBER</u>	<u>EFFECT CODE</u>
801307-00	A
801307-01	B
801307-02	C
801307-03	D
801307-04	E
801307-05	F
801307-06	G
801307-07	H
801307-08	J
801307-09	K
801307-10	L
801307-20	M
801307-21	N
801307-22	P
801307-23	R
801307-24	S
801307-25	T

35-21-57

SCOTT

**801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL**



**Stationary Cylinder Assembly
Figure 1**

35-21-57

Page 1004
Apr 1/82

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1-1	801307-00		CYLINDER ASSEMBLY - STATIONARY	A	RF
-2	801307-01		CYLINDER ASSEMBLY - STATIONARY	B	RF
-3	801307-02		CYLINDER ASSEMBLY - STATIONARY	C	RF
-4	801307-03		CYLINDER ASSEMBLY - STATIONARY	D	RF
-5	801307-04		CYLINDER ASSEMBLY - STATIONARY	E	RF
-6	801307-05		CYLINDER ASSEMBLY - STATIONARY	F	RF
-7	801307-06		CYLINDER ASSEMBLY - STATIONARY	G	RF
-8	801307-07		CYLINDER ASSEMBLY - STATIONARY	H	RF
-9	801307-08		CYLINDER ASSEMBLY - STATIONARY	J	RF
-9A	801307-09		CYLINDER ASSEMBLY - STATIONARY	K	RF
-9B	801307-10		CYLINDER ASSEMBLY - STATIONARY	L	RF
-9C	801307-20		CYLINDER ASSEMBLY - STATIONARY	M	RF
-9D	801307-21		CYLINDER ASSEMBLY - STATIONARY	N	RF
-9E	801307-22		CYLINDER ASSEMBLY - STATIONARY	P	RF
-9F	801307-23		CYLINDER ASSEMBLY - STATIONARY	R	RF
-9G	801307-24		CYLINDER ASSEMBLY STATIONARY	S	RF
-9H	801307-25		CYLINDER ASSEMBLY - STATIONARY	T	RF
10	10003070		. PLATE - ID	A-S	1
-10A	10005457		. PLATE - ID (NON-BOEING UNITS)	A-S	1
-10B	10005672		. PLATE -ID	T	1
11	801308-13		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	C	1
-12	801308-15		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	H	1
-13	801308-22		. VALVE -OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	BJ	1

- ITEM NOT ILLUSTRATED

5000

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1-14	801308-24		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	DF	1
-15	801308-31		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	AEG	1
-15A	801308-43		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	K	1
-15B	801308-19		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	LR	1
-15C	801308-20		. VALVE - OXYGEN (SEE FIGURE 2 FOR BREAKDOWN)	MNPS T	1
16	10003753		. LABEL		1
17	10003367		. CYLINDER	ABCD HKRS	1
-18	10003365		. CYLINDER	E	1
-19	10003366		. CYLINDER	FGJLP	1
-20	10005002		. CYLINDER	N	1
-21	10005003		. CYLINDER	M	1
-22	10005671		. CYLINDER	T	1

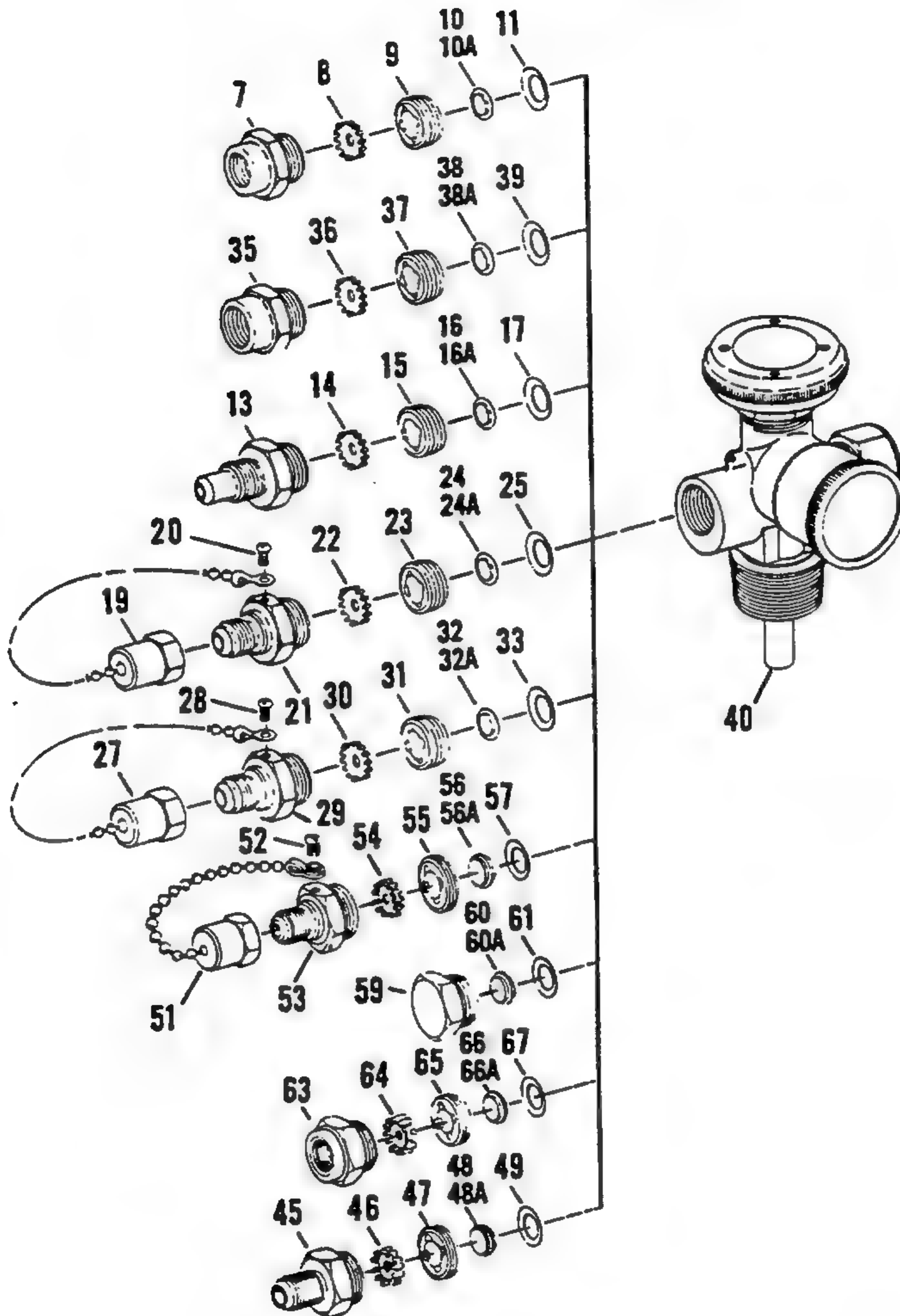
- ITEM NOT ILLUSTRATED

35-21-57

Page 1006
Apr 1/82

SCOTT

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL



Oxygen Valve
Figure 2

35-21-57

5000

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY	
2-1	801308-13		VALVE - OXYGEN (SEE ITEM 11, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	C	RF	
-2	801308-15		VALVE - OXYGEN (SEE ITEM 12, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	H	RF	
-3	801308-22		VALVE - OXYGEN (SEE ITEM 13, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	BJ	RF	
-4	801308-24		VALVE - OXYGEN (SEE ITEM 14, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	DF	RF	
-5	801308-31		VALVE - OXYGEN (SEE ITEM 15, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	AEG	RF	
-5A	801308-43		VALVE - OXYGEN (SEE ITEM 15A, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	K	RF	
-5B	801308-19		VALVE - OXYGEN (SEE ITEM 15B, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	LR	RF	
-5C	801308-20		VALVE - OXYGEN (SEE ITEM 15C, FIGURE 1, FOR NEXT HIGHER ASSEMBLY)	MNPS	RF	
-6	801153-00		. OUTLET ASSEMBLY	AEG	1	
7	10002536		.. NUT (THREAD PER MS33649-5)	AEG	1	
8	6572-00		.. INSERT	AEG	1	
9	2786-00		.. RETAINER	AEG	1	
10	10003742		.. DISC (SILVER) (ALTERNATE FOR ITEM 10A)	AEG	1	
10A	10006001		.. DISC (BRONZE) (ALTERNATE FOR ITEM 10)	AEG	1	R
11	6555-00		.. GASKET	AEG	1	
-12	800843-00		. OUTLET ASSEMBLY	BJ	1	
13	10001581		.. FITTING (5/8-20 UN)	BJ	1	
14	6572-00		.. INSERT	BJ	1	
15	2786-00		.. RETAINER	BJ	1	
16	10003742		.. DISC (SILVER) (ALTERNATE FOR ITEM 16A)	BJ	1	
16A	10006001		.. DISC (BRONZE) (ALTERNATE FOR ITEM 16)	BJ	1	R.
17	6555-00		.. GASKET	BJ	1	

- ITEM NOT ILLUSTRATED

35-21-57

Page 1008
Apr 30/85

5000

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY	
2-18	22606-01		. OUTLET ASSEMBLY	CK	1	
19	11272-00		.. CAP ASSEMBLY	CK	1	
20	MS35206-213		ATTACHING PARTS			
			.. SCREW	CK	1	R

21	22605-03		.. NUT (THREAD PER	CK	1	
			MS33656-5)			
22	6572-00		.. INSERT	CK	1	
23	2786-00		.. RETAINER	CK	1	
24	10003742		.. DISC (SILVER) (ALTERNATE	CK	1	
			FOR ITEM 24A)			
24A	10006001		.. DISC (BRONZE) (ALTERNATE	CK	1	R
			FOR ITEM 24)			
25	6555-00		.. GASKET	CK	1	
-26	800844-01		. OUTLET ASSEMBLY	DF	1	
27	11272-01		.. CAP ASSEMBLY	DF	1	
			ATTACHING PARTS			
28	MS35206-213		.. SCREW	DF	1	R

29	10001612		.. NUT (THREAD PER	DF	1	
			MS33656-5)			
30	6572-00		.. INSERT	DF	1	
31	2786-00		.. RETAINER	DF	1	
32	10003742		.. DISC (SILVER) (ALTERNATE	DF	1	
			FOR ITEM 32A)			
32A	10006001		.. DISC (BRONZE) (ALTERNATE	DF	1	R
			FOR ITEM 32)			
33	6555-00		.. GASKET	DF	1	
-34	10722-00		. OUTLET ASSEMBLY	H	1	
35	10723-00		.. NUT (1/8 ANPT)	H	1	
36	6572-00		.. INSERT	H	1	
37	2786-00		.. RETAINER	H	1	
38	10003742		.. DISC (SILVER) (ALTERNATE	H	1	
			FOR ITEM 38A)			
38A	10006001		.. DISC (BRONZE) (ALTERNATE	H	1	R
			FOR ITEM 38)			
39	6555-00		.. GASKET	H	1	
40	801333-01		. BODY AND GAGE ASSY	CHLR	1	
			(SEE FIGURE 3 FOR			
			BREAKDOWN)			
-41	801333-02		. BODY AND GAGE ASSY	BJDF	1	
			(SEE FIGURE 3 FOR	MNPST		
			BREAKDOWN)			
-42	801333-03		. BODY AND GAGE ASSY	AEG	1	
			(SEE FIGURE 3 FOR			
			BREAKDOWN)			

- ITEM NOT ILLUSTRATED

35-21-57

Page 1009

Apr 30/85

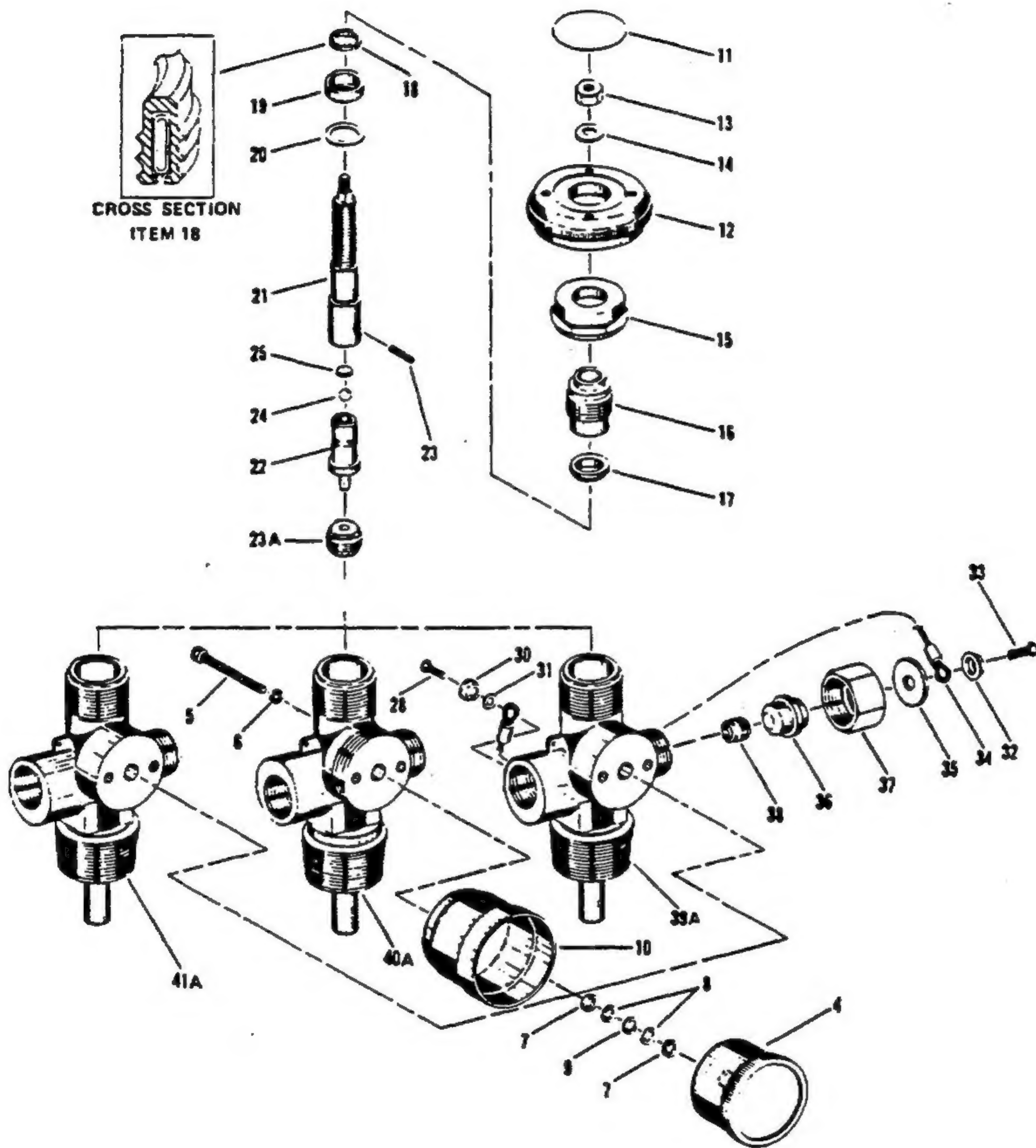
801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY	
2-43	801333-04		. BODY AND GAGE ASSY (SEE FIGURE 3 FOR BREAKDOWN)	K	1	
-44	22608-02		. OUTLET ASSEMBLY	LR	1	
45	22759-00		.. NUT (THREAD PER MS33656-E5)	LR	1	
46	6572-00		.. INSERT	LR	1	
47	2786-00		.. RETAINER	LR	1	
48	10003742		.. DISC (SILVER) (ALTERNATE FOR ITEM 48A)	LR	1	
48A	10006001		.. DISC (BRONZE) (ALTERNATE FOR ITEM 48)	LR	1	
49	6555-00		.. GASKET	LR	1	
-50	800844-00		. OUTLET ASSEMBLY	MNPST	1	
51	11272-00		.. CAP ASSEMBLY ATTACHING PARTS	MNPST	1	
52	MS35206-213		.. SCREW -----	MNPST	1	R
53	10001611		.. NUT (THREAD PER MS33656-E4)	MNPST	1	
54	6572-00		.. INSERT	MNPST	1	
55	2786-00		.. RETAINER	MNPST	1	
56	10003742		.. DISC (SILVER) (ALTERNATE FOR ITEM 56A)	MNPST	1	
56A	10006001		.. DISC (BRONZE) (ALTERNATE FOR ITEM 56)	MNPST	1	R
57	6555-00		.. GASKET	MNPST	1	
-58	2814-00		. OUTLET ASSEMBLY	N/USG	1	
59	21077-00		.. PLUG	N/USG	1	
60	10003742		.. DISC (SILVER) (ALTERNATE FOR ITEM 60A)	N/USG	1	
60A	10006001		.. DISC (BRONZE) (ALTERNATE FOR ITEM 60)	N/USG	1	R
61	6555-00		.. GASKET	N/USG	1	
-62	10689-00		. OUTLET ASSEMBLY	N/USG	1	
63	2787-00		.. NUT (THREAD PER AND 10050-5)	N/USG	1	
64	6572-00		.. INSERT	N/USG	1	
65	2786-00		.. RETAINER	N/USG	1	
66	10003742		.. DISC (SILVER) (ALTERNATE FOR ITEM 66A)	N/USG	1	
66A	10006001		.. DISC (BRONZE) (ALTERNATE FOR ITEM 66)	N/USG	1	R
67	6555-00		.. GASKET	N/USG	1	

- ITEM NOT ILLUSTRATED

90011

801307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL



Body and Gage Assembly
Figure 3

35-21-57


B01307 SERIES
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNIT PE.. ASSY
3-1	801333-01		BODY AND GAGE ASSY (SEE ITEM 40, FIGURE 2 FOR NHA)	CHLR	RF
-2	801333-02		BODY AND GAGE ASSY (SEE ITEM 41, FIGURE 2 FOR NHA)	BDFJ MNPST	RF
-3	801333-03		BODY AND GAGE ASSY (SEE ITEM 42, FIGURE 2 FOR NHA)	AEG	RF
-3A	801333-04		BODY AND GAGE ASSY (SEE ITEM 43, FIGURE 2 FOR NHA)	K	RF
4	21217-00		. GAGE ATTACHING PARTS		1
5	AN500D6-22		. SCREW	BDFJ MNPST	2
-5A	18565-00		. SCREW	AEGC HKLRS	2
6	18600-00		. WASHER -----*		2
7	22152-01		. RING		2
8	MS9068-006		. PACKING		2
9	22152-02		. RING		1
10	10001813		. GUARD	BDFJM NPST	1
11	10003315		. PLATE - ID		1
12	10003301		. HANDLE ATTACHING PARTS		1
13	AN345C10		. NUT		1
14	AN960C10L		. WASHER -----*		1
15	10003307		. RETAINER		1
16	10003313		. SLEEVE		1
17	10003580		. GUIDE		1
18	300-011G	1	. SEAL (V09055)		1
19	10003579		. RETAINER		1
20	10003578		. WASHER		1
21	10003314		. STEM		1
22	801418-00		. TIP AND POPPET ASSY ATTACHING PARTS		1
23	MS171432		. PIN -----*		1
23A	801417-01		. SEAT AND FILTER ASSY (POST SB 35-43)		1
24	13194-00		. BALL		1
25	8547-00		. BEARING		1

- ITEM NOT ILLUSTRATED

SCOTT

801307 SERIES COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
3-26	801419-00		. CAP ASSEMBLY (SUPERSEDED BY 801815-00)		1
-27	801815-00		. CAP ASSEMBLY ATTACHING PARTS		1
28	MS24693-C3		. SCREW		1
29	DELETED				1
30	AN227-7		. FASTENER		1
31	10004198		. SPACER -----*		1
32	801823-00		.. CABLE ATTACHING PARTS		1
33	MS24693-C27		.. SCREW		1
34	13865-1		.. FASTENER		1
35	10004197		.. WASHER -----*		1
36	10003316		.. NIPPLE		1
37	6121-1		.. NUT		1
38	801420-00		. FILTER ASSEMBLY		1
-39	801942-01		. BODY AND SEAT ASSEMBLY (SUPERSEDED BY ITEM 39A)	CH	1
39A	801416-01		. BODY AND TUBE ASSEMBLY (SUPERSEDES ITEM 39)	CHK LR	1
-40	801942-02		. BODY AND SEAT ASSEMBLY (SUPERSEDED BY ITEM 40A)	BDFJ	1
40A	801416-02		. BODY AND TUBE ASSEMBLY (SUPERSEDES ITEM 40)	BDFJ MNPST	
-41	801942-03		. BODY AND SEAT ASSEMBLY (SUPERSEDED BY ITEM 41A)	AEG	1
41A	801416-03		. BODY AND TUBE ASSEMBLY (SUPERSEDES ITEM 41)	AEG	1
-42	801581-00 		. KIT-1 REPLACEMENT (REPLACES ITEM 18)		1

- ITEM NOT ILLUSTRATED

35-21-57

Page 1013/1014
Apr 1/82